

*foods and herbs
just might be the
first line of defence
for health instead
of modern
medications*

GreenMed*info*
The Science of Natural Healing

Nature's Pharmacy

EVIDENCE-BASED ALTERNATIVES TO DRUGS



with forewords by

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— Pamela Duff, RN, CSNC —

Nature's Pharmacy

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The Science of Natural Healing



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Dedicated to all those
who are looking for ways
to improve health.



FOREWORDS



Erin Toner BA, DHMHS, PTS

Since 2006, when I began postgraduate studies in homeopathy after a family tragedy, I have become increasingly aware that there is tremendous harm being done by conventional medicine, and not enough healing. Every case I encounter into pharmaceuticals and medical technology, our culture is one with widespread illness and death. This is due to a culture too willing to accept that there is a pill to in favour of medical 'advances' which may prolong life, but which certainly do not increase health.

:KHQ , ÀUVW PHW 3DP 'XII , LPPHGLDWHO\ IHOW D FRQQHFWLRQ sense attitude and passion for health and helping people resonated with me. Having VWXGLHG KRPHRSDWK\ KROLVWLF QXWULWLRQ DQG RWKHU KHD I share her disappointment in the current state of the health care system and the strong desire to change it. I have come to regard highly her opinion and have a tremendous amount of respect for her, both as a person and as a medical professional.

7R VD\ WKDW , ZDV H[FLWHG WR OHDUQ WKDW VKH ZDV ZULWLQJ PLOGO\ 7KLV ERRN LV ZKDW SHRSOH ZRUNLQJ LQ KROLVWLF KHD great interest in them, have been waiting for. It is the culmination of years of study, UHVHDFK DQG ÀUVW KDQG H[SHULHQFH 3DP·V H[SHULHQFH LQ WRJHWKHU ZLWK KHU NQRZOHGJH DQG SDVVLRQ IRU KROLVWLF K D ERRN OLNH QR RWKHU D ERRN WKDW ZLOO OLNHO\ UXIÁH D IH medical world.

7KLV ERRN FRPHV DW D YHU\ LPSRUWDQW WLPH D WLPH ZKHQ VXUHO\ DZDNHQLQJ 1HYHU EHIRUH KDYH ZH KDG DFFHVV WR V PLVLQIRUPDWLRQ DQG ZH DUH KXQJU\ IRU NQRZOHGJH DQG DQV their medical information from their physicians or from mass media, where the latest GUXJV DQG YDFFLQHV DUH IRUFHG XSRQ WKHP ZLWK WKH XVH RI WRROV DQG DUH QRW H[SRVHG WR RWKHU YLHZSRLQWV RU KHD

7KLV LV D YHU\ LPSRUWDQW WH[W ZKLFK FDQ EH XVHG DV D U KHDOWK SURIHVVLRQDO DQG DYHUDJH FLWL]HQ DOLNH 6LPSO\ V LW OLNH LW LV DQG SUHVHQWV PHGLFDO DQG VFLHQWLÁF IDFW RI PDQ\ OLYLQJ LQ RXU WLPH WKRVH ZKR DUH WDNLQJ WKHLU

,W LV D ERRN WKDW SUHVHQWV KHDOWK DOWHUQDWLYHV WK PRGHO DQG WKDW GLVSOD\V 3DP·V WLUHOHVV HIIRUWV WR KH WKH DXWKRU FDQ EH FRQÀGHQW WKDW PDQ\ SHRSOH ZLOO JD the health implications of pharmaceuticals and the effective alternatives that are available, because of her efforts.

~ Erin Toner

Parminder Kaur Khaira BSc, DC, CAFCI

DP KRQRXUHG WR ZULWH D IRUZDUG WR WKLV H[FHOOHQW ER RI RXU KHDOWK 3DP DQG , VKDUH D FRPPRQ EDFNJURXQG :H KHDOWK SURIHVVLRQDOV ZLWK H[WHQVLYH NQRZOHGJH LQ KRO UHJLVWHUHG QXUVH DQG , DP D FKLURSUDFWRU :LWK P\ EDFN me to use alternative medicine to treat and heal my family. I can diagnose a condi - WLRQ DQG ÀQG D QDWXUDO VROXWLRQ WKDW ZLOO ZRUN EHV IRU PH EHFDXVH , KDYH WKH EDFNJURXQG WR PDNH WKH ULJK VHOHFWLQJ WKH FRUHFV WUHDWPHQW , DP IRUWXQDWH WR everyone has this depth of information.

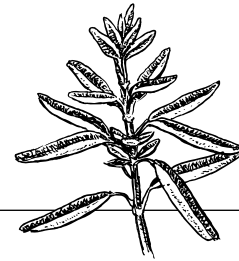
,Q RXU ZRUOG WKH UROH RI DOWHUQDWLYH PHGLFLQH LQ RXU tially. For those individuals who want to use natural alternatives, deciphering truths and facts from misleading information can be overwhelming. Our main source of LQIRUPDWLRQ WRGD\ LV WKH LQWHUQHW DQG LW LV IXOO RI ZDQWV WR H[SORUH RSWLRQV RXWVLGH RI FRQYHQWLRQDO PH how can this be done when there is an overabundance of information? How do we PDNH VHQVH RI WKLV LQIRUPDWLRQ" +RZ GR ZH PDNH WKH EHV our family?

3DP 'XII·V ODWHVW ERRN ÀOOV WKH PDMRU JDSV LQ KHDOW RI QDWXUDO PHGLFLQH %\ SUHVHQWLQJ D UHVHDUFK EDVHG FRPSOHWH NQRZOHGJH RI WKHLU EHQHÀWV DGYDQW DJHV DQG been created in a particular format to help the reader understand what the condi - WLRQ LV DQG ZKLFK VXSSOHPHQWV ZLOO ZRUN EHV 7KH UHV treatment are listed and if the reader wishes more information he may locate the VWXG\ DQG UH DG LW FRPSOHWHO\ 7KLV LV FRQYHQWLRQDO DQG convenient, accessible, and friendly to the general public.

)URP UH DGLQJ WKLV ERRN LW LV FOHDU WKDW VFLHQFH VXSS ZLOO DLG FRQVXPHUV LQ WDNLQJ FRQWURO RI WKHLU RZQ KHD educating the public with facts and sound advice that is supported by research. It LV ZHOO ZULWWHQ DQG XS WR GDWH ,W LV DQ H[FHOOHQW U SURIHVVLRQDOV (QMR\ WKH ERRN DQG XVH LW WR UHJDLO \RX

a 3DUPLQG HU .DXU .KDLU

ACKNOWLEDGEMENTS



ALOWKRXJK , VSHQW VHYHUDO \H DU V UHVH DUFKLQJ IRU WKLV E
along the way.

, KDYH DOZD\ V YDOXHG WKH RSLQLRQ RI P\ KXVEDQG RI \H DU V
KLJK VFKRRO WHDFKHU +LV VXSSRUW KDV EHHQ LQYDOXDEOH -
while admitting he had no idea what he was reading but as long as the right punc -
WXDWLRQ DQG JUDPPDU ZHUH WKHUH KH ZDV KDSS\ 2 DQG VR Z
him enough for all he has done for me.

7KDQN \RX JRHV WR \$OHMDQGUR 'XII IRU WKH DXWKRU SKRWR
D JUHDW SKRWRJUDSK FDPH DW D YHU\ \RXQJ DJH +H FDQ PDM
including his grandmother.

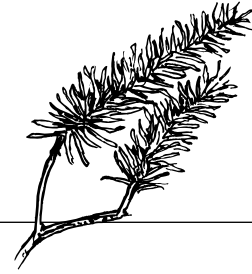
,W ZDV P\ FOLHQWV DQG FR ZRUNHUV ZKR NHSW SURGGLQJ PH IR
WLRQ WKDW JDYH ULVH WR WKLV WDVN ,I LW ZDVQ·W IRU WKHL
VWDUWHG WR FOLPE WKLV PRXQWDLQ QRU ÀQLVKHG LW , DP WUX
me beyond what I thought I was capable of doing.

I am inspired and grateful to all the enlightened conventional and alternative health
FDUH SURYLGHUV DXWKRU V DQG ZHEVLWHV WKDW RIIHU TXD
FRQWULEXWHG WR P\ NQRZOHGJH DV , WU\ WR EULGJH WKH JDS
DOWHUQDWLYH KHDOLQJ \$QG D VSHFLDO WKDQN \RX JRHV WR
to pop up.

7R ÀQG HYLGHQFH EDVHG DOWHUQDWLYHV , XVHG *RRJOH 6FKR
months. But when I stumbled upon GreenMedInfo.com, I thought I had died and
JRQH WR DEWUDFW KHDYHQ 7KLV LV D PDUYHORXV UHVXUFH
%RWK 6D\HU -L DQG &DPHURQ)LOOHUV SURPSWO\ DGGUHVHG D
ZRUN LV D PFK QHHGHG UHVXUFH DQG , DP WUXO\ WKDQNIXO
my search time.

a 3DPHOD 'XII

ABOUT THE BOOK



The book is meant to be a bridge between conventional and alternative practices. It is meant to give both sides to the story of healing practices. These days, we are only given one side of a preference for health instead of modern medications. Far too much emphasis is placed on using plants prevent disease and restore health during illness.

6 HFRQG LW XVHV ERRN IRUPDW WR SXEOLFLJH KDUG WR ÀQG SUP WKDQ XWLOLJLQJ RWKHU IRUPV RI WHFKQRORJ\ 1RW WKDW WKHU EXW VRPH SUDFWLWLRQHUV VWLOO QHHG D ERRN LQ KDQG DV D

7 KLUG LW NHHSV VWXGLHV ULJKW ZLWK VWDWHPHQWV LQVWHDG ZKHUH IHZ WHQG WR ORRN DW WKH EHVW RI WLPHV

That said, Nature's Pharmacy: Evidence-Based Alternatives to Drugs is meant to be a bridge between conventional and alternative practices. It is meant to give both sides to the story of healing practices. These days, we are only given one side of a preference for health instead of modern medications. Far too much emphasis is placed on using plants prevent disease and restore health during illness. Worse yet, harmful side effects of medications are glossed over until severe illness or

Although there is room in the world of health for alternatives, the information provided as conventional medicine claims to have had for years.

Nature's Pharmacy: Evidence-Based Alternatives to Drugs is NOT a means to diagnose, treat, or alter any course of action prescribed by a doctor. Any change you might want to try must be discussed with him/her. If your doctor refuses to listen

Remember: Herbs are Medicines. They can interact with pharmaceutical medications, replace what your doctor has already prescribed. Investigate everything you put into your body with a professional to see if there is an alternative right for you.

6 WXG\ ERWK VLGHV MXVW DV , GLG DQG WKHQ WDNH FKDUJH RI \

INTRODUCTION



TKLV ERRN EHJDQ DV D IHZ VKHHWV RI SDSHU WKDW ZHUH XVHG
DGYLVRUV DW 7KH 2UJDQLF *URFHU DQ DZDUG ZLQQLQJ FHUW
rey, BC, Canada. We have customers from around the world that come because they
NQRZ WKH\ FDQ REWDLQ TXDOLW\ LQIRUPDWLRQ IURP RXU SURIH
)UHTXHQWO\ IUXVWUDWHG FXVWRPHUV UHODWHG VWRULHV DER
WLRQV UHJDUGLQJ WDNLQJ PHGLFDWLRQV ZLWK D VXSSOHPHQW
children and told to stay away from using nutrients for healing because they were
QRWKLQJ PRUH WKDQ VQDNH RLO 7KDW QHYHU VLWV ZHOO ZLWK
WKHP LQWR WKH RWKHU FDPS 7KRVH XQVHWWOLQJ H[SHULHQ
DUHD RI VWXG\ RQH ZKLFK XQNQRZLQJO\ VWDUWHG PDQ\ \HDU

I was forced to retire early as a registered nursing director. Antibiotics over long periods of time plummeted my condition and contributed to other health concerns.

7KH VWUHV LPSURSHU HDWLQJ KDELWV DQG ODFN RI UHVV GHV
H[WHQW WKDW , EDVLFDOO\ ZHQW KRPH WR GLH ,QVHHDG ZKHQ
WKH XVH RI DOWHUQDWLYHV , NQHZ , FRXOG QHYHU JR EDFN V
PHWKRGV 7RGD\ P\ KHDWK DQG TXDOLW\ RI OLIH DUH EHWWH
years ago when I left nursing.

, FRQLQXHG WR VWXG\ WKRXJK WDNLQJ FRXUVHV IURP ERWK
DOWHUQDWLYH \$IWHU UHFHLYLQJ VHYHUDO FHUWLÀFDWLRQV LO
MRLQ WKH WHDP RI FRQVXOWDQWV DW 7KH 2UJDQLF *URFHU 7K
WR JXLGH SHRSOH WRZDUG EHWWHU GLHWV DORQJ ZLWK D ZLVHU
tion with their medications.

3DWLHQWV DUH XVXDOO\ FDXWLRQHG DERXW GUXJ WR GUXJ RU
one tells them, however, about the nutrients their medications are destroying nor are
WKH\ WROG WKDW WDNLQJ VXSSOHPHQWV FRXOG RIIVHW WKLV O

On the other hand, once someone is made aware that maybe their medications are
GHSOHWLQJ YDOXDEOH QXWULHQWV KH VKH DVVXPHV WKDW PHG
with their supplements. Such is not the case.

Studies have shown that almost all drugs deplete at least one nutrient needed by the
ERG\ PRVW RIWHQ LW LV WKH YHU\ QXWULHQW UHTXL-UHG WR FR
tions deplete a long list of nutrients.

This book lists only the nutrient depletions that have been studied. More are

VXVSHFWHG EXW DV \HW KDYH QRW EHHQ 'VFLHQWLÀFDOO\µ
)RU H[DPSOH LI D GUXJ GHSOHWHV RQH IDW VROXEOH YLWDF
YLWDPLQ WKHUH DUH DERXW LQ WKH IDPLO\ WKHQ WKH
their relatives will succumb as well. Therefore, we should assume that destroying
one member triggers a domino effect that could involve others. The same applies for
minerals and proteins.

In an attempt to be fair, I have to say that doctors are not completely at fault for their

ODFN RI NQRZOHGJH LQ QXWULWLRQ 6XFK FRXUVHV KDYH QRW
schools and what are available, give the barest of outlines based on a food pyramid.
:KDW LV XQIRUJLYHDEOH LV WKHLU QRW ZDQWLQJ WR HYHQ WD
ZRUOG RI KHDOLQJ KDV WR RIIHU \$ FORVHG PLQG LV D VWDJQ

'RFWRUV LQVWHDG RI WDNLQJ WKH WLPH WR ÀQG RXW VSHZ I
XS E\ SKDUPDFHXWLFDO UHSUHVHQWDWLYHV LQIRUPDWLRQ W
as nutrient depletions and certainly, would never suggest that a plant could be used
as an alternative.

Nature's Pharmacy: Evidence-Based Alternatives to Drugs is by no means a compre -
hensive listing. There are thousands upon thousands of drugs and alternative stud -

LHV VR LW ZRXOG EH KXPDO\ LPSRVVLEOH WR OLWV WKHP DO

I chose to list drugs according to general categories of ailments for which they are

XVHG , IRXQG WKDW PRVW SHRSOH FDQQRW QDPH WKH GUXJ
NQRZ ZK\ ² XVXDOO\

, VWLOO UHFRPPHQG WKDW LI \RX DUH LQ GRXEW FKHFN ZLW
7KHUH DUH RQH V RXW WKHUH ZKR GR NQRZ WKLV LQIRUPDWLR
, I \RXUV GRHV QRW HQFRXUDJH KLP KHU WR ÀQG RXW RU ÀQG
ZLOOLQJ WR ÀQG RXW

All drugs cause side effects as well as nutritional destruction. This is because they
are usually based on one active ingredient. Foods contain hundreds of substan -

FHV WKDW ZRUN V\QHUJLVWLFDOO\ DQG UDUHO\ FDXVH GLVFI
medications.

Worse yet is this statistic. Since 2009, prescription drug deaths have outnumbered

GHDWKV IURP WUDIÀF DFFLGHQWV LQ WKH 8QLWHG 6WDWHV FO
XW H\A Times, 6 HSW)

Canada fares only slightly better.

According WR WKH 8QLWHG 6WDWHV 1DWLRQDO DEATHS HAVE 'DWD 6\
UHVXOWHG IURP WDNLQJ YLWDPLQV PLQHDOV SURWHLQV RU
off the shelves at the speed of light if someone reports a "stomach ache" that might be
FRQQHFWHG ² QRW WKH GUXJV 7KRVH DUH DOORZHG WR NLOO
to repeat the practise yet herbs, with no history of mortality, are not allowed to be
sold or severely restricted in some way.

Nature's Pharmacy: Evidence-Based Alternatives to Drugs

,URQLFDOO\ VFDUH WDFWLFV VHHP WR ZRUN ZKHQ LW FRPHV WR
XVLQJ DQ\WKLQJ QDWXUDO LQ IDYRXU RI SUHVFULEHG V\QWKHW
thing wrong with the priorities of our present-day so-called health care systems.

Suggested Alternatives are included with each category. These are only suggestions that should be investigated further and approved by your doctor or pharmacist since some can interfere with other medications. Often a medication can be substituted,
DOWKRXJK WKH PHGLFDO SURIHVVLRQ GRHV QRW ZDQW \RX WR N

The alternative suggestions are those that have been studied by scientists and used by medical doctors, chiropractors, naturopaths, and other professional health care providers in their own practises.

If nothing else, replenish what your medication is destroying, but do so wisely. It is
\RXU TXDOLW\ RI OLIH WKDW LV LQ MHRSDUG\ DQG \RX VKRXOG
lessly through the dictates of those supposedly under the oath of "do no harm".

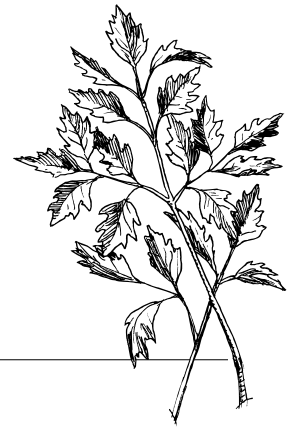
7KH ERG\ QHHGV QXWULHQWV LQ RUGHU WR IXQFWLRQ 7KLQN F
IXHO LQWR D %0: RU VXJDU LQWR \RXU JDU WDN WKH FDU ZI
ZLWK SDUWV XQDEOH WR IXQFWLRQ DJDLQ 6R LW LV ZLWK WKH
QHHGV DQG LW KHDOV LWVHOI EXW JLYH LW MXQN LQVWHDG DQ
evidence all around us.

'U &DUO 3IHLIIHU VDLG LW EHVW 'RU HYHU\ GUXJ WKDW EHQHÀ
substance that can achieve the same effect."

CAUTIONS

- Do not take any supplement at the same time as a medication whether it is prescribed or over-the-counter. This includes herbs, vitamins and minerals.
8QOHVV FRPSOHWHO\ FRQWUDLQGLFDWHG WDNLQJ VXSSOH
away from medications usually prevents or minimizes any possible interference.
- Fruit and Fruit juices should not be used to take medications)UXLW MXLFHV
are powerful healers but, unfortunately, they can interfere with the action of
PHGLFDWLRQV 7KH RQH PRVW VWXGLHG LV *UDSHIUXLW M
EHHQ VWXGLHV GRQH RQ PDQ\ RWKHU IUXLWV VHH WKH \$SS
ORUH WKDQ \HDUV DJR JUDSHIUXLW MXLFH SURYHG WR D
PRUH WKDQ SUHVFULSWLRQ GUXJV 6LQFH WKHQ RWKHU
that mirror similar effects, although, with results not as drastic as in some
cases with grapefruit interactions.
- *UDSHIUXLW DQG LWV MXLFH KDV WKH SRWHQWLDO IRU V
FRQWDLQV FHUWDLQ ÁDYRQRLGV QDULQJHQLQ TXHUFHV
increase the concentrations of many drugs, sometimes tripling the amount,
DQG GHOD\LQJ WKHLU UHOHDVH WR ZKHUH WKH EORRGVWUH
medication, occasionally with fatal results. Effects can last for three days or
PRUH VR WDNLQJ MXLFH DW D GLIIHUHQW WLPH RI WKH GD\

- ' 6RPH LQWHUHVWLQJ VWXGLHV KDYH DOVR EHHQ SHUIRUP
MXLFHV LQFOXGLQJ 1RQL 0DQJRVWHHQ *RML DQG \$FDL
EHQHÀWV ZLWK QRQH VXJJHVWLQJ SRVVLEOH GUXJ LQWHUD
KHDOWK EHQHÀWV WKDW IDU RXW ZHLJK DQ\ SRVVLEOH GD
LW LV VWLOO D JRRG LGHD WR DYRLG WDNLQJ DQ\ PHGLFD
- ' 7DNH PHGLFDWLRQV ZLWK ZDWHU RQO\
- ' Do not take medications with Milk either 'DLU\ SURGXFWV LQWHUD
with certain antibiotics, especially tetracyclines, osteoporosis-prevention
PHGLFDWLRQV DQG OD[DWLYHV WR QDPH D IHZ
- ' Do not take medications with Alcohol, Tea, Coffee, Sodas, Ma huang,
bitter orange, or chocolate RU DQ\ RWKHU OLTXLG H[FHSW ZDWHU
- ' Know your medication. .QRZ ZK\ \RX DUH WDNLQJ LW ZKDW WKH V
DUH DQG ZKDW IRRGV \HV IRRGV PLJKW LQWHUDFW
- ' Above all, know what nutrients \RX VKRXOG WDNH WR FRPSHQVDWH IF
your drug is costing you.



ACID BLOCKERS / ANTACIDS / ANTI-ULCER

(USED TO TREAT GASTROINTESTINAL ULCERS, ACID REFLUX, OR HEARTBURN)

COMMON EXAMPLES:

Antacids

DOXPLQXP PDJQHVLXP 2 *DYL VFRQ 0DDOR[0\ODQWD 0LQ
 \$PSKRMHO
 FDOFLXP FDUERQDWH 2 7XPV 7LWUDODF 5RODLGV DQG F
 VRGLXP ELFDUERQDWH 2 EDNLQJ VRGD
 \$QWL ÁDWXOHQW DQWL IRDPLQJ DJHQW
 \$OND 6HOW]HU *DV 5HOLHI *DV ; 0DDOR[\$QWL *DV 0\ODQW
 ,QIDQW 2YRO 3KD]\PH ,QIDQW DQG PDQ\ RWKHUV

H2-Blockers +LVWDPLQH UHFHSWRU DQWDJRQLVWV

cimetidine – Tagamet

IDPRWLGLQH 2 3HSFLG

QL]DWLGLQH 2 \$[LG

ranitidine – Zantac

Proton Pump Inhibitors 33, V

HVRPHSUD]ROH 2 1H[LXP

LDQVRSUD]ROH 2 3UHYDFLG

RPHSUD]ROH 2 3ULORVHF =HJDULG

SDQVRSUD]ROH 2 3URWRQL[

UDEHSUD]ROH \$FLSKH[

... and others

Others

sucralfate – Carafate

VXOIDVDOD]LQH 2 \$]XOÀGLQH 6DOD]RS\ULQ

DEplete:

A, beta carotene, B1, B2, B3, B6, B9, B12, C, D, E, K, calcium, chromium, copper, iron, magnesium, phosphorus, potassium, selenium, zinc, CoQ10, glutathione/NAC, melatonin, good intestinal bacteria

Acid Blockers basically destroy all nutrients, or prevent them from being absorbed. Altering the pH balance of the digestive tract lays the

JURXQGZRUN IRU D ZKROH KRVW RI GLVHVDHV DQG GLVRUG
 DFLGV PDNHV LW KDUGHU IRU WKH ERG\ WR GLJHVW RRRG 2

ACID BLOCKERS

to be too much acid is really the opposite with food sitting too long in the

VWRPDFK ZDLWLQJ IRU HQRXJK GLJHVWLYH MXLFHV WR IRU

- *Aymard et al: Haematological adverse effects of histamine H2-receptor antagonists. Med Toxicol Adverse Drug Exp 1988 Nov-Dec;3(6):430-48
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- *Skikne et al: Role of gastric acid in food iron absorption. Gastroenterol 1981 Dec;81(6):1068-71

Acid Blockers FDXVH D YLWDPLQ % GHÀFLHQF\ % UHTXLUHV D
DFLGV LQ RUGHU WR PDNH LQWULQVLF IDFWRU ZKLFK LV
PROHFXOH ,W LV RIWHQ DGYLVDEOH WR WDNH D VXEOLQJX
VXSSOHPHQW ZKLFK E\SDVVHV WKH GLJHVWLYH V\ VWHP 7D
UHTXLUHG WR FRUUHFV D PLOG % GHÀFLHQF\ LQ WKH H
WKDQ WKH 5 '\$ UHFRPPHQGHG GLHWDU\ DOORZDQFH

- *Dharmarajan et al: Do acid-lowering agents affect vitamin B12 status in older adults? J Am Med Dir Assoc 2008 Mar;9(3):162-7
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Acid Blockers DUH OLQNHG WR PXVFOH ZHDNQHVV P\ RSDWK\
stomach cancer. They are also not an effective treatment for infantile symptoms
RI *(5' JDVWURHVRSKDJHDO UHÁX[GLVHDVH

- *Agrawal & Jose: Anti-ovulatory activity of H2 receptor blockers in albino rabbits--a preliminary study. Eur J Contracept Reprod Health Care 2011 Apr;16(2):142-6
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PPIs are the most potent of the acid-reducing medications. They reduce stomach acid production up to 99% which strongly interferes with nutrient absorption. Ironically, they are also capable of inducing acid-related symptoms.

33, V DUH WKH PRVW FRPPRQ FDXVH RI GLDUUKHD DQG SQH)
DQG LQ FKLOGUHQ 2QH VWXG\ UHYHDOHG WKDW GRVHV WDN
WKDQ GRXEOHG WKH ULVN RI RVWHRSRURVLV DQG KLS IUDFY
WKH LQFUHDVHG ULVN ZDV OLNHO\ WKH GHSHWLRQ RI FDO
hampered the body's ability to build new bone.

*Canani et al: Therapy with gastric acidity inhibitors increases the risk of acute gastroenteritis and community-acquired pneumonia in children. *Pediatrics* 2006 May;117(5):e817-20

*Corley et al: Proton pump inhibitors and histamine-2 receptor antagonists are associated with hip fractures among at-risk patients. *Gastroenterol* 2010 Jul;139(1):93-101

*Cunningham & Dial: Is over-use of proton pump inhibitors fuelling the current epidemic of Clostridium difficile-associated diarrhoea? *J Hosp Infect* 2008 Sep;70(1):1-6

*Eurich et al: Recurrent community-acquired pneumonia in patients starting acid-suppressing drugs. *Am J Med* 2010 Jan;123(1):47-53

*Laheij et al: Risk of community-acquired pneumonia and use of gastric acid-suppressive drugs. *JAMA* 2004 Oct 27;292(16):1955-60

*McGowan et al: Prescribing of anti-osteoporotic therapies following the use of proton pump inhibitors in general practice. *Pharmacoepidemiol Drug Saf* 2010 Jul;19(7):763-9

*Reimer et al: Proton-pump inhibitor therapy induces acid-related symptoms in healthy volunteers after withdrawal of therapy. *Gastroentero* 2009 Jul;137(1):80-7,87e1

*Teramura-Grönblad et al: Use of proton-pump inhibitors and their associated risks among frail elderly nursing home residents. *Scand J Prim Health Care* 2010 Sep;28(3):154-9

*Yang et al: Long-term proton pump inhibitor therapy and risk of hip fracture. *JAMA* 2006 Dec;296(24):2947-53

PPIs VLJQLÀFDQWO\ LQFUHDVH WKH ULVN RI DFTXLULQJ WK
GLIÀFLOH E\ DIWHU MXVW GD\ V RI XVH 6DSXWR YLGH
children.

*Akhtar & Shaheen: Increasing incidence of clostridium difficile-associated diarrhea in African-American and Hispanic patients: association with the use of proton pump inhibitor therapy. *J Natl Med Assoc* 2007 May;99(5):500-4

*Dial et al: Use of gastric acid-suppressive agents and the risk of community-acquired Clostridium difficile-associated disease. *JAMA* 2005 Dec 21;294(23):2989-95

*Dial et al: Risk of Clostridium difficile diarrhea among hospital inpatients prescribed proton pump inhibitors: cohort and case-control studies. *CMAJ* 2004 Jul 6;171(1):33-8

*Howell et al: Iatrogenic gastric acid suppression and the risk of nosocomial Clostridium difficile infection. *Arch Intern Med* 2010 May 10;170(9):784-90

*Saputo: Acid Blockers Triple Risk of C. diff Infections online video

*Turco et al: Proton pump inhibitors as a risk factor for paediatric Clostridium difficile infection. *Aliment Pharmacol Ther* 2009 Dec 29

PPIs can induce dangerously low sodium levels to the point of delirium and
FDXVH UKDEGRP\RO\VLV GHVWUXFWLRQ RI WKH VNHO\WDO

*Bebarta et al: Proton pump inhibitor-induced rhabdomyolysis and hyponatremic delirium. *Am J Emerg Med* 2008 May;26(4):519.e1-2

- PPIs are associated with a number of metabolic, infectious, cardiac, and orthopedic health problems.

*Chapman et al: Adverse effects of long-term proton pump inhibitor use: a review for the otolaryngologist. J Voice 2010 Feb 6

- Various factors FRQWULEXWH WR LQÁDPPDWRU\ ERZHO GLVHD UHTXLUH DFLG EORFNHUV RU RWKHU GUXJV EXW ZKLFK EDG FRQGLWLRQ PHGLFDWLRQV 005 PHDVOHV PXPSV U FRQWUDFHSWLYHV VRPH LURQ VXSSOHPHQW IRUPV FRO alcohol consumption, sucralose and so on. Sucralose is a sweetener used in the food processing industry, especially in Canada, where they have the

KLJKHVW LQFLGHQFH RI LQÁDPPDWRU\ ERZHO GLVHDVH LQ

- *Cornish et al: The risk of oral contraceptives in the etiology of in ammatory bowel disease: a meta-analysis. Am J Gastroenterol 2008 Sep;103(9):2394-400
- *Erichsen et al: Low-dose oral ferrous fumarate aggravated intestinal in ammation in rats with DSS-induced colitis. In amm Bowel Dis 2005 Aug;11(8):744-8
- *Fayaz et al: Mesalazine-induced eosinophilic variant of Wegener's granulomatosis in an ulcerative colitis patient. J Ayub Med Coll Abbottabad 2009 Oct-Dec;21(4):171-3
- *Kawashima et al: Detection and sequencing of measles virus from peripheral mononuclear cells from patients with in ammatory bowel disease and autism. Dig Dis Sci 2000 Apr;45(4):723-9
- *Qin: What made Canada become a country with the highest incidence of in ammatory bowel disease: Could sucralose be the culprit? Can J Gastroenterol 2011 Sep;25(9):511
- *Rea et al: Ulcerative colitis after statin treatment. Postgrad Med J 2002 May;78(919):286-7
- *Russel et al: Modern life in the epidemiology of in ammatory bowel disease: a case-control study with special emphasis on nutritional factors. Eur J Gastroenterol Hepatol 1998 Mar;10(3):243-9

SUGGESTED ALTERNATIVES:

Aloe vera juice or gel helps calm and heal the digestive tract and is particularly

KHOSIXO LQ WUHDWLQJ LQÁDPPDWRU\ ERZHO GLVHDVHV

- *Davis et al: Randomised double-blind placebo-controlled trial of aloe vera for irritable bowel syndrome. Int J Clin Pract 2006 Sep;60(9):1080-6
- *Korkina et al: The protective and healing effects of a natural antioxidant formulation based on ubi quinol and Aloe vera against dextran sulfate-induced ulcerative colitis in rats. Lancet 2001 Dec 15;358(9298):2026-33
- *Langmead et al: Randomized double-blind placebo-controlled trial of oral aloe vera gel for active ulcerative colitis. Aliment Pharmacol Ther 2004 Apr 1;19(7):739-47
- *Langmead et al: Randomized, double-blind, placebo-controlled trial of oral aloe vera gel for active ulcerative colitis. Ann Allergy Asthma Immunol 2003 Apr;90(4):371-7;quiz 377-8, 421

Alkaline foods ² HDW PRUH RI WKHP \$ JRRG OLVWLQJ FDQ EH IRXQ

*www.rense.com/1.mpicons/acidalka.htm

American Ginseng GHFUHDVHV FROLWLVLQ LQÁDPPDWLRQ

- *Jin et al: American ginseng suppresses colitis through p53-mediated apoptosis of in ammatory cells. Cancer Prev Res (Phila Pa) 2010 Feb 23
- *Angelica is an herb that helps decrease symptoms of ulcerative colitis and other in ammatory bowel diseases.
- *Wong et al: Protective effect of polysaccharides from Angelica sinensis on ulcerative colitis in rats. In ammopharma 2008 Aug;16(4):162-7
- *Ye et al: Effect of polysaccharides from Angelica sinensis on gastric ulcer healing. Radiat Res 2006 May;165(5):546-52

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Apples LQKLELW + S\ORUL EDFWHULXP GHFUHDVH GDPDJH WR W
SUHYHQW WKH GHYHORS PHQW RI LQÁDPPDWRU\ ERZHO GLVHVDVH
apples because conventionally grown apples are the number one fruit for chemical
content.

- *Apples worst for pesticides on produce list. CBC News, Jun 14, 2011
- *Castagnini et al: Reduction of colonic inflammation in HLA-B27 transgenic rats by feeding Marie Mnard apples, rich in polyphenols. Br J Nutr 2009 Dec;102(11):1620-8
- *DeNoon: Apples Are Top Food With Most Pesticides: 'Dirty Dozen' List Reveals Fruits/Veggies With Most Pesticides. WebMD Health News June 13, 2011
- *Pastene et al: In vitro inhibitory effect of apple peel extract on the growth of Helicobacter pylori and respiratory burst induced on human neutrophils. J Agric Food Chem 2009 Sep 9;57(17):7743-9
- *Shabecoff: 100 Chemicals for Apples Add Up to Enigma on Safety. NY Times Feb 5, 1989
- *Splinter et al: The effect of preoperative apple juice on gastric contents, thirst, and hunger in children. Can J Anesth 1989 Jan;36(1):55-58
- *The Full List: 53 Fruits and Veggies. Environmental Working Group. www.ewg.org/foodnews/list/
- *Yoshioka et al: Orally administered apple procyanidins protect against experimental inflammatory bowel disease in mice. Int Immunopharmacol 2008 Dec 20;8(13-14):1802-7

Arginine D Q D P L Q R D F G Garlic help prevent acid-induced ulcerative colitis.

- *Harisa et al: L-arginine augments the antioxidant effect of garlic against acetic acid-induced ulcerative colitis in rats. Pak J Pharm Sci 2009 Oct;22(4):373-80

Artichoke, Dandelion root, Turmeric, and Rosemary relieve symptoms of dyspepsia -
VLD LPSDLUHGLJHVWLRQ

- *Sannia: Phytotherapy with a mixture of dry extracts with hepato-protective effects containing artichoke leaves in the management of functional dyspepsia symptoms. Minerva Gastroenterol Dietol 2010 Jun;56(2):93-9

Astaxanthin LV D SRWHQW DQWLR[LGDQW WLPHV JUHDWHU WKD
LQÁDPPDWRU\ SURSHUWLHV WKDW KHOS WUHDW G\VSHSVLD LQG
GHULYHG IURP DOJDH VRXUFHV WKDW JLYH VRPH ÁVK DQG ÁDPLQ

- *Kidd: Astaxanthin, cell membrane nutrient with diverse clinical benefits and anti-aging potential. Altern Med Rev 2011 Dec;16(4):355-64
- *Kupcinskias et al: Efficacy of the natural antioxidant astaxanthin in the treatment of functional dyspepsia in patients with or without Helicobacter pylori infection: A prospective, randomized, double blind, and placebo-controlled study. Phytomed 2008 Jun;15(6-7):391-9
- *Yasui et al: Dietary inhibition of colitis and colitis-associated colon carcinogenesis in mice via modulation of the inflammatory cytokines. Chem Biol Interact 2011 May 20

Ayurvedic Herbal combination LV MXVW DV HIIHFWLYH DV VWHU-RLGV LQ W
WRU\ ERZHO GLVHVDVH DQG ZLWKRXW WKH VLGH HIIHFWV %LOZD
&RULDQGUXP VDWLXP OXVWD & \SHUXV URWXQG XV 9DOD 9H

- *Jagtap et al: Effect of polyherbal formulation on experimental models of inflammatory bowel diseases. Reprod Toxicol 2007 Feb;23(2):182-91

Banana powder suppresses ulcer formation.

- *Goel et al: Anti-ulcerogenic effect of banana powder (Musa sapientum var. paradisiaca) and its effect on mucosal resistance. J Ethnopharmacol 1986 Oct;18(1):33-44
- *Mukhopadhyaya et al: Effect of banana powder (Musa sapientum var. paradisiaca) on gastric mucosal shedding. J Ethnopharmacol 1987 Sep-Oct;21(1):11-9

Bay leaves prevent ulcer formation.

*A et al: Evaluation of the gastroprotective effect of Laurus nobilis seeds on ethanol induced gastric ulcer in rats. J Ethnopharmacol 1997 Sep;58(1):9-14

Bitter Herbs help improve poor digestion. Swedish bitters is a combination of herbs

WKDW KDYH EHHQ XVHG IRU GHFDGHV 6RPH ELWWHU KHUEV LQ OLRQ JHQWLDQ JROGHQVHDO JDUOLF PXVWDUG PLON WKLV them often in salads or green smoothies.

*Abascal & Yarnell: Combining herbs in a formula for irritable bowel syndrome. Alt Compl Ther 2005 Feb;11(1):17-23

*Alqasoumi et al: Rocket "Eruca sativa": a salad herb with potential gastric anti-ulcer activity. World J Gastroenterol 2009 Apr 28;15(16):1958-65

*Challem: Bitter herbs for better digestion: looking for a safe and natural alternative to antacids? Try the remedy used for years by Europeans for upset stomach and digestive troubles. Better Nutrition February 2007 online article

*Lamy et al: Antigenotoxic properties of Eruca sativa (rocket plant), erucin and erucosin in human hepatoma (HepG2) cells towards benzo(a)pyrene and their mode of action. Food Chem Toxicol 2008 Jul;46(7):2415-21

*Li et al: Effects of common-used bitter-cold herbs on gastrointestinal hormone in rats. J Trad Chin Med 2007 Jan

*Snow & Spelman: The influence of bitter, aromatic, and pungent medicinal plants on gut function. Gastro Liver Dis Nutr Desk Ref 17:237-49

B-complex, Melatonin, Amino acids, and Hydrochloric acid combination prove to

EH PRUH HIIHFWLYH WKDQ RPHSUDJROH D 33, LQ WUHDWLQJ

*de Souza Pereira et al: Regression of gastroesophageal reflux disease symptoms using dietary supplementation with melatonin, vitamins and amino acids: comparison with omeprazole. J Pineal Res 2006 Oct;41(3):195-200

Beta glucans are polysaccharides derived from oats, mushrooms, or yeasts. Beta glucans are safe and effectively used to treat a number of diseases including colitis

DQG VWRPDFK FDQFHU DV ZHOO DV VLP SOH FROGV DQG ÁXV & DQFHU

*Daddaoua et al: Active hexose correlated compound acts as a prebiotic and is anti-inflammatory in rats with hapten-induced colitis. J Nutr 2007 May;137(5):1222-8

%RVZHOOLD)UDQNLQFHQVH gum resin decreases ulcers, regulates the digestive tract and improves nutrient absorption.

*Gupta et al: Effects of gum resin of Boswellia serrata in patients with chronic colitis. Plant Med 2001 Jul;67(5):391-5

*Gupta et al: Effects of Boswellia serrata gum resin in patients with ulcerative colitis. Eur J Med Res 1997 Jan;2(1):37-43

*Madisch et al: Boswellia serrata extract for the treatment of collagenous colitis. A double-blind, randomized, placebo-controlled, multicenter trial. Int J Colorectal Dis 2007 Dec;22(12):1445-51

Bromelain LV D FRPELQDWLRQ RI SURWHLQ GLJHVWLQJ HQJ\PHV Bromelain effectively treats digestive disorders by enhancing absorption and permeability

DELOLW\ ZKLOH GHFUHDVLQJ LQÁDPPDWLRQ

*Grabovac & Bernkop-Schnürch: Improvement of the intestinal membrane permeability of low molecular weight heparin by complexation with stem bromelain. Arch Intern Med 2005 Jan 24;165(2):200-6

*Hale et al: Dietary supplementation with fresh pineapple juice decreases inflammation and colonic neoplasia in IL-10-deficient mice with colitis. Inflamm Bowel Dis 2010 Dec;16(12):2012-21

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- *Hale et al: Treatment with oral bromelain decreases colonic inflammation in the IL-10-deficient murine model of inflammatory bowel disease. Clin Immunol 2005 Aug;116(2):135-42
- *Onken et al: Bromelain treatment decreases secretion of pro-inflammatory cytokines and chemokines by colon biopsies in vitro. Clin Immunol 2008 Mar;126(3):345-52
- *Pellicano et al: Benefit of dietary integrators for treating functional dyspepsia: a prospective pilot study. Clin Exp Allergy 2009 Jun;39(6):875-82

Butterbur is an herb from the daisy family that helps prevent ulcers. It is also an effective remedy for migraines.

- *Brune et al: Gastro-protective effects by extracts of *Petasites hybridus*: the role of inhibition of peptido-leukotriene synthesis. Planta Med 1993 Dec;59(6):494-6
- *Lipton et al: *Petasites hybridus* root (butterbur) is an effective preventive treatment for migraine. Ann N Y Acad Sci 2009 Feb;1155:278-83
- *Wang et al: Calcium-antagonizing activity of S-petasin, a hypotensive sesquiterpene from *Petasites formosanus*, on inotropic and chronotropic responses in isolated rat atria and cardiac myocytes. Naunyn Schmiedebergs Arch Pharmacol 2004 Mar;369(3):322-9

Cambuca 3 O L Q L D H G X O L V D % U D J L O L D Q K H U E S U R Y H V P R U H H I I in preventing ulcers.

- *Ishikawa et al: Evaluation of gastroprotective activity of *Plinia edulis* (Vell.) Sobral (Myrtaceae) leaves in rats. J Ethnopharma 2008 Aug 13;118(3):527-9

Cardamom seeds protect the gastric system.

- *Jamal et al: Gastroprotective effect of cardamom, *Elettaria cardamomum* Maton fruits in rats. J Ethnopharmacol 2006 Jan 16;103(2):149-53

Carotenoids I U R P U H G E D Q D Q D V D Q G S D S U L N D * R O G H Q ' H O L F L R X V D oranges has an effect on the *H. pylori* bacterium and some multi-drug resistant strains.

- *Englberger et al: Carotenoid and vitamin content of Karat and other Micronesian banana cultivars. Int J Food Sci Nutr 2006 Aug-Sep;57(5-6):399-418
- *Englberger et al: Carotenoid-rich bananas: a potential food source for alleviating vitamin A deficiency. Food Nutr Bull 2003 Dec;24(4):303-18
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- *Molnár et al: Biological activity of carotenoids in red paprika, Valencia orange and Golden delicious apple. Phytother Res 2005 Aug;19(8):700-7

Catechins D U H D J U R X S R I Á D Y R Q R L G V W K D W K D Y H W K H V D P H H I I H F W K H V L G H H I I H F W V & D W H F K L Q V F D Q E H I R X Q G L Q V X F K I R R G V D chocolate and berries.

- *Murakami et al: Gastric H⁺, K(+) -ATPase inhibition by catechins. J Pharm Pharmacol 1992 Nov;44(11):926-8

Celery extract V L J Q L À F D Q W O \ S U R W H F W V W K H G L J H V W L Y H W U D F W

- *Al-Howiriny et al: Gastric antiulcer, antisecretory and cytoprotective properties of celery (*Apium graveolens*) in rats. Pharm Biol 2010 Jul;48(7):786-93

CLA F R Q M X J D W H G O I R E Q S H A C T E R I A I N D U C E D colitis and often helps with weight-loss.

- *Hontecillas et al: Nutritional regulation of porcine bacterial-induced colitis by conjugated linoleic acid. J Nutr 2002 Jul;132(7):2019-27

Cloves and Cinnamon are particularly effective against the H. pylori bacterium that often causes ulcers.

- *Bhamarapravati et al: Extracts of spice and food plants from Thai traditional medicine inhibit the growth of the human carcinogen Helicobacter pylori. Indian J Ophthalmol 2009 May-Jun;57(3):185-9
- *Tabak et al: Cinnamon extracts' inhibitory effect on Helicobacter pylori. J Ethnopharma 1999 Nov 30;67(3):269-77

Coconut Water or Coconut Milk KHOSV SUHYHQW XOFHUV DQG UHGXFHV W of aluminum poisoning. By replacing part of omega-6 fatty acid supplementation ZLWK PHGLXP FKDLQ IDWW\ DFLGV RI &RFRQXW FROLWLV DW

- *Mañé et al: Partial replacement of dietary (n-6) fatty acids with medium-chain triglycerides decreases the incidence of spontaneous colitis in interleukin-10-deficient mice. J Nutr 2009 Mar;139(3):603-10
- *Nneli et al: Antiulcerogenic effects of coconut (Cocos nucifera) extract in rats. Phytother Res 2008 Jul;22(7):970-2
- *Shadnia et al: Successful treatment of acute aluminium phosphide poisoning: possible benefit of coconut oil. Hum Exp Toxicol 2005 Apr;24(4):215-8

Colic in infants is a legitimate digestive complaint caused by a variety of reasons. A VDIH KHUEDO WUHDWPHQW ZDV IRXQG WR EH HIIHFWLYH ZLWKL)HQQHO DQG OHOLVVD OHPREQEDOP \$ ZHDN WHD FDQ EH IHG W RU WDNHQ E\ WKH EUHDVW IHHGLQJ PRWKHU

- *Savino et al: A randomized double-blind placebo-controlled trial of a standardized extract of Matricaria recutita, Foeniculum vulgare and Melissa officinalis (ColiMil) in the treatment of breastfed colicky infants. Phytother Res 2005 Apr;19(4):335-40

Cow milk elimination KHOSV LQIDQWV RYHUFRPH *(5' WKDW LV -QRW UHV FDWLRQV 3URELRWLFV DOVR KHOS ZLWK LQIDQW DQG DGXOW

- *Farahmand et al: Cow's milk allergy among children with gastroesophageal reflux disease. Gut Liver 2011 Sep;5(3):298-301

Curcumin WKH DFWLYH VXEVDQFH LQ 7XUPHULF UHGXFHV D Q lead to colitis and damage the digestive tract. Since much of what we consume or put RQ RXU ERGLHV KDYH ORDGV RI FKHPLFDQV LW LV ZLVH WR W RU XVH 7XUPHULF LQ FRRNLQJ DV RIWHQ DV SRVVLEOH LQ RUG by chemicals.

- *Arafa et al: Prophylactic role of curcumin in dextran sulfate sodium (DSS)-induced ulcerative colitis murine model. J Pharm Pharmacol 2007 Jun;59(6):849-56
- *Camacho-Barquero et al: Curcumin, a Curcuma longa constituent, acts on MAPK p38 pathway modulating COX-2 and iNOS expression in chronic experimental colitis. Int Immunopharmacol 2007 Mar;7(3):333-42
- *Cong et al: Curcumin induces the tolerogenic dendritic cell that promotes differentiation of intestine-protective regulatory T cells. Eur J Immunol 2009 Nov;39(11):3134-46
- *Deguchi et al: Curcumin prevents the development of dextran sulfate Sodium (DSS)-induced experimental colitis. Dig Dis Sci 2007 Nov;52(11):2993-8
- *Hanai et al: Curcumin maintenance therapy for ulcerative colitis: randomized, multicenter, double-blind, placebo-controlled trial. Clin Gastroenterol Hepatol 2006 Dec;4(12):1502-6
- *Hanai & Sugimoto: Curcumin has bright prospects for the treatment of inflammatory bowel disease. J Lab Clin Med 1997 Dec;130(6):576-84
- *Jian et al: Preventive and therapeutic effects of NF-kappaB inhibitor curcumin in rats colitis induced by trinitrobenzene sulfonic acid. World J Gastroenterol 2005 Mar 28;11(12):1747-52
- *Jiang et al: Curcumin-attenuated trinitrobenzene sulphonic acid induces chronic colitis by inhibiting expression of cyclooxygenase-2. World J Gastroenterol 2006 Jun 28;12(24):3848-53

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- *Lubbad et al: Curcumin reverses attenuated carbachol-induced contraction of the colon in a rat model of colitis. *Scand J Gastroenterol* 2009;44(2):187-94
- *Lubbad et al: Curcumin attenuates inflammation through inhibition of TLR-4 receptor in experimental colitis. *Mol Cell Biochem* 2009 Feb;322(1-2):127-35
- *Ra ee et al: Effect of curcumin on acidic pH-induced expression of IL-6 and IL-8 in human esophageal epithelial cells (HET-1A): role of PKC, MAPKs, and NF-kappaB. *Am J Physiol Gastroint Liver Physiol* 2009 Feb;296(2):G388-98
- *Salh et al: Curcumin attenuates DNB-induced murine colitis. *Am J Physiol Gastrointest Liver Physiol* 2003 Jul;285(1):G235-43
- *Sethi et al: Curcumin attenuates aluminium-induced functional neurotoxicity in rats. *Pharmacol Biochem Behav* 2009 Jul;93(1):31-9
- *Sugimoto et al: Curcumin prevents and ameliorates trinitrobenzene sulfonic acid-induced colitis in mice. *Gastroenterol* 2002 Dec;123(6):1912-22
- *Ukil et al: Curcumin, the major component of food flavour turmeric, reduces mucosal injury in trinitrobenzene sulphonic acid-induced colitis. *Br J Pharmacol* 2003 May;139(2):209-18
- *Ung et al: Oral administration of curcumin emulsified in carboxymethyl cellulose has a potent anti-inflammatory effect in the IL-10 gene-deficient mouse model of IBD. *Dig Dis Sci* 2010 May;55(5):1272-7
- *Venkataranganna et al: NCB-02 (standardized Curcumin preparation) protects dinitrochlorobenzene-induced colitis through down-regulation of NFkappa-B and iNOS. *World J Gastroenterol* 2007 Feb 21;13(7):1103-7
- *Yadav et al: Novel formulation of solid lipid microparticles of curcumin for anti-angiogenic and anti-inflammatory activity for optimization of therapy of inflammatory bowel disease. *J Pharm Pharmacol* 2009 Mar;61(3):311-21
- *Yadav et al: Effect of cyclodextrin complexation of curcumin on its solubility and antiangiogenic and anti-inflammatory activity in rat colitis model. *AAPS PharmSciTech* 2009;10(3):752-62
- *Zhang et al: Curcumin regulated shift from Th1 to Th2 in trinitrobenzene sulphonic acid-induced chronic colitis. *Acta Pharmacol Sin* 2006 Aug;27(8):1071-7
- *Zhang et al: Curcumin inhibits trinitrobenzene sulphonic acid-induced colitis in rats by activation of peroxisome proliferator-activated receptor gamma. *Int Immunopharmacol* 2006 Aug;6(8):1233-42

Damiana LV DQ KHUE WKDW KDV VLJQLÀFDQW DQWDFLG DQG DQWL X

- *de Souza Gracioso et al: Effects of tea from *Turnera ulmifolia* L. on mouse gastric mucosa support the Turneraceae as a new source of antiulcerogenic drugs. *Biol Pharm Bull* 2002 Apr;25(4):487-91

'DQGHOLRQ)HQQHO /HPRQEDOP 0DULJROG &DOHQGXOD 6W
that effectively treat colitis and diarrhea.

- *Chak Ęrski et al: Treatment of chronic colitis with an herbal combination of *Taraxacum officinale*, *Hipericum perforatum*, *Melissa officinalis*, *Calendula officinalis* and *Foeniculum vulgare*. *Vutr Boles* 1981;20(6):51-4

Dates are comparable to lansoprazole in preventing gastric ulcers.

- *Al-Qarawi et al: The ameliorative effect of dates (*Phoenix dactylifera* L.) on ethanol-induced gastric ulcer in rats. *J Ethnopharmacol* 2005 Apr 26;98(3):313-7

Diet rich in fruits, vegetables and ω -3 significantly decrease digestive disorders
LQFOXGLQJ %DUHWW·V HVRSKDJXV DV ZHOO DV DOO W\SHV RI
betes, and heart disease.

- *Gramenzi et al: Association between certain foods and risk of acute myocardial infarction in women. *Diabetes Metab Res Rev* 2003 Jan-Feb;19(1):69-75
- *Kubo et al: Effects of dietary fiber, fats, and meat intakes on the risk of Barrett's esophagus. *Nutr Cancer* 2009;61(5):607-16

Digestive Enzymes and/or Hydrochloric acid + FO DW HYHU\ PHDO HQKDQFHV
tion and the immune system.

*Bohager 2009:65-69

DGL GHJO\F\UUKLJLQDWHG OLFRLUFH URRW EHIRUH D PHDO KH
especially if there is an ulcer present.

- *Bennett et al: Aspirin-induced gastric mucosal damage in rats: cimetidine and deglycyrrhizinated liquorice together give greater protection than low doses of either drug alone. J Pharm Pharmacol 1980 Feb;32(2):151
- *Feldman & Gilat: A trial of deglycyrrhizinated liquorice in the treatment of duodenal ulcer. Gut 1971;12:449
- *Johnston & Mclsaac: The effects of deglycyrrhizinated liquorice and cimetidine on resting gastric mucosal blood flow in man. Br J Pharmacol 1981;74:971-972
- *Morgan et al: The effect of deglycyrrhizinated liquorice on the occurrence of aspirin and aspirin plus bile acid-induced gastric lesions, and aspirin absorption in rats. Gastroenterol 1982;82:1134
- *Rees et al: Effect of deglycyrrhizinated liquorice on gas-tric mucosal damage by aspirin. Scand J Gastroenterol 1979;14(5):605-7
- *Russell et al: Studies on the protective effect of deglycyrrhizinated liquorice against aspirin (ASA) and ASA plus bile acid-induced gastric mucosal damage, and ASA absorption in rats. Scand J Gastroenterol Suppl 1984;92:97-100
- *van Marle et al: Deglycyrrhizinated liquorice and the renewal of rat stomach epithelium. Eur J Pharmacol 1981;72:219-225

Dong quai \$ QJHOLF D V D Q M B W L Q R Z Q DV WKH IHPDOH JLQVHQJ QDW
estrogen levels but it also decreases the effects of ulcerative colitis.

- *Wong et al: Protective effect of polysaccharides from Angelica sinensis on ulcerative colitis in rats. In ammopharma 2008 Aug;16(4):162-7
- *Ye et al: Effect of polysaccharides from Angelica sinensis on gastric ulcer healing. Rad Res 2006 May;165(5):546-52

Ellagic acid, IRXQG LQ UHG UDVSEHUULHV KDV WKH VDPH HIIHFW D
side effects.

*Murakami et al: Inhibition of gastric H+, K(+)-ATPase and acid secretion by ellagic acid. Mol Nutr Food Res 2008 Jun;52(6):692-700

Essential oils KDYH JDVWUR SURWHFWLYH HIIHFWV KHOS WR UHJXC
GLJHVWLRQ DQG VRPH DUH HIIHFWLYH LQ SUHYHQWLQJ + S\O
ternally by adults or children although infants should be massaged with the oils in a
FDUULHU RLO LQVWHDG RI JLYLQJ LQWHUQDOO\ &DUDZD\)HQ
1HUROL 1XWPHJ 2UDQJH 2UHJDQR DQG 3HSSHUPLQW HVSHF

- *Alexandrovich et al: The effect of fennel (Foeniculum Vulgare) seed oil emulsion in infantile colic: a randomized, placebo-controlled study. Altern Ther Health Med 2003 Jul-Aug;9(4):58-61
- *Bergonzelli et al: Essential oils as components of a diet-based approach to management of Helicobacter infection. Antimicrob Agents Chemother 2003 Oct;47(10):3240-46
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- *May et al: Efficacy and tolerability of a fixed combination of peppermint oil and caraway oil in patients suffering from functional dyspepsia. *Aliment Pharmacol Ther* 2000 Dec;14(12):1671-7
- *Merat et al: The effect of enteric-coated, delayed-release peppermint oil on irritable bowel syndrome. *Dig Dis Sci* 2010 May;55(5):1385-90
- *Moraes et al: Effects of limonene and essential oil from *Citrus aurantium* on gastric mucosa: role of prostaglandins and gastric mucus secretion. *Chem Biol Interact* 2009 Aug 14;180(3):499-505

Antioxidants reduce the need for steroids in ulcerative colitis.

- *Aslan & Triada Iopoulos: Fish oil fatty acid supplementation in active ulcerative colitis: a double-blind, placebo-controlled, crossover study. *Am J Gastroenterol* 1992 Apr;87(4):432-7
- *Seidner et al: An oral supplement enriched with fish oil, soluble fiber, and antioxidants for corticosteroid sparing in ulcerative colitis: a randomized, controlled trial. *Clin Gastroenterol Hepatol* 2005 Apr;3(4):358-69

Flavonoids reduce the need for steroids in ulcerative colitis.

- *Odvina: Comparative value of orange juice versus lemonade in reducing stone-forming risk. *Clin J Am Soc Nephrol* 2006 Nov;1(6):1269-74
- *Zayachkivska et al: Gastroprotective effects of flavonoids in plant extracts. *J Physiol Pharmacol* 2005 Mar;56 Suppl 1:219-31

Gallstones are reduced by natural remedies.

- *Moritz: *The Liver and Gallbladder Miracle Cleanse*, Ulysses Press, 2007
- *Nijhawan et al: Evaluation of garlic oil as a contact dissolution agent for gallstones: comparison with monoctanoin. *Trop Gastroenter* 2000 Oct-Dec;21(4):177-9
- *Raintree Tropical Plant Database - www.rain-tree.com/chanca.htm

Ginger is a valuable herbal root that prohibits ulcer formation, protects the digestive tract from aluminum damage, and is up to eight times more effective than lansoprazole.

- *Moselhy et al: Role of ginger against the reproductive toxicity of aluminium chloride in albino male rats. *Reprod Domest Anim* 2011 Jul 26
- *Nanjundaiah et al: Gastroprotective effect of ginger rhizome (*Zingiber officinale*) extract: role of gallic acid and cinnamic acid in H+, K+-ATPase/H. pylori Inhibition and anti-oxidative mechanism. *Evid Based Compl Alt Med* 2009 Jul 1
- *Siddaraju & Dharmesh: Inhibition of gastric H+, K+-ATPase and *Helicobacter pylori* growth by phenolic antioxidants of *Zingiber officinale*. *Mol Nutr Food Res* 2007 Mar;51(3):324-32

Ginkgo biloba extract EGb 761 has anti-inflammatory properties and ameliorates colitis in mice by driving effector T cell apoptosis.

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ACID BLOCKERS

Glucosamine LV DQ HVVHQWLDQ VXJDU UHTXLUHG E\ PDQ\ FHOOV functioning. It is effective for decreasing the effects of such autoimmune disorders as LQÁDPPDWRU\ ERZHO GLVHVDHV DQG DUWKULWLV

- *Russell: Glycoaminoglycan (GAG) deficiency in protective barrier as an underlying, primary cause of ulcerative colitis, Crohn's disease interstitial cystitis and possibly Reiter's syndrome. Med Hypoth 1999 Apr;52(4):297-301
- *www.innvista.com/health/nutrition/sugars/glucosamine.htm
- *Yomagida et al: Glucosamine, a naturally occurring amino monosaccharide, suppresses dextran sulfate sodium-induced colitis in rats. Int J Mol Med 2008 Sep;22(3):317-23

Glutamine is a non-essential amino acid that plays a role in gut-healing, especially DIWHU D ERZHO UHVHFWLRQ RU LQ SUHPDWXUH LQIDQWV \$OR DFLG +RQH\ RU &XUFXPLQ *OXWDPLQH·V HIIHFWV DUH LQFUH

- *Basivireddy et al: Oral glutamine attenuates indomethacin-induced small intestinal damage. Clin Sci (Lond) 2004 Sep;107(3):281-9
- *Eyarefe et al: Small bowel responses to enteral honey and glutamine administration following massive small bowel resection in rabbit. Afr J Med Med Sci 2008 Dec;37(4):309-14
- *Kul et al: Enteral glutamine and/or arginine supplementation have favorable effects on oxidative stress parameters in neonatal rat intestine. J Pediatr Gastroenterol Nutr 2009 Jul;49(1):85-9
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- *Roth: Nonnutritive effects of glutamine. J Nutr 2008 Oct;138(10):2025S-2031S
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Goldenseal and Bloodroot are herbs that inhibit the H. pylori bacteria, often the cause of stomach ulcers.

- *Mahady et al: In vitro susceptibility of Helicobacter pylori to isoquinoline alkaloids from Sanguinaria canadensis and Hydrastis canadensis. J Med Food 2007 Dec;10(4):694-701

Grapes protect against the H. pylori bacterium. Buy only organic grapes as they are RQ WKH OLVW RI IRRGV WKDW DUH KLJKHVW LQ SHVWLFLGHV

- *Martini et al: Antibacterial activity of grape extracts on cagA-positive and -negative Helicobacter pylori clinical isolates. J Chemother 2009 Nov;21(5):507-13
- *The Full List: 53 Fruits and Veggies. Environmental Working Group. www.ewg.org/foodnews/list/

Hawthorn is an herb often used to strengthen the heart muscle but it also has other PXOWL EHQHÁFLDO HIIHFWV LQFOXGLQJ JDVWUR SURWHFWLYH

- *Tadi ü et al: Anti-inflammatory, gastroprotective, free-radical-scavenging, and antimicrobial activities of hawthorn berries ethanol extract. J Agric Food Chem 2008 Sep 10;56(17):7700-9

Homeopathic treatment LQ DUHDV RI DQ[LHW\ GHSUHVVLQR DQG LUU WR EH PRUH WKDQ SRVLWLYH

- *Mathie & Robinson: Outcomes from homeopathic prescribing in medical practice: a prospective, research-targeted, pilot study. Homeopathy 2006;95:199-205

Honey QRQ SDVWHXULJHG Olive oil, Doc NED Deswax is a safe and effective FRPELQDWLRQ WR XVH RQ SDLQIXO KHPRUUKRLGV RU DQDO ÀV prolonged digestive problems. Manuka honey is an effective rehydration additive IRU LQIDQWV DQG FKLOGUHQ DIWHU D ERXW RI JDVWURHQWHU

GLVHDTVHV DQG KHOSV RYHUFPH VWRPDFK XOFHUV FDXVHG E\ DOVR IHHG &DQGLGD \HDVW WKDW RIWHQ DFFRPSDQLHV + S\ORU ODQXND KRQH\ DV WKH DYHUDJH `JURFHU\ VWRUH KRQH\µ LV QRW not medicinally effective.

- *Abdulrhman et al: Bee honey added to the oral rehydration solution in treatment of gastroenteritis in infants and children. J Med Food 2010 Jun;13(3):605-9
- *Al-Waili et al: The safety and efficacy of a mixture of honey, olive oil, and beeswax for the management of hemorrhoids and anal fissure: a pilot study. Sci World J 2006 Feb 2;6:1998-2005
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- *Somal et al: Susceptibility of Helicobacter pylori to the antibacterial activity of manuka honey. J R Soc Med 1994 Jan;87(1):9-12

Indian Oyster Mushroom UHGXFHV FROLWLV LQÁDPPDWLRQ

- *Lavi et al: Orally administered glucans from the edible mushroom Pleurotus pulmonarius reduce acute inflammation in dextran sulfate sodium-induced experimental colitis. Br J Nutr 2009 Sep 22:1-10

Iron supplements are often necessary but can aggravate colitis. Vitamin E can OHVVHQ WKHVH HIIHFWV EXW LURQ VXSSOHPHQWV VKRXOG DOZD forms are easier to absorb than others but which ones depends on the person. Fer - URXV IXPDUDWH LV D IRUP RIWHQ SUHVFULEHG DQG YHU\ GLIÁ FDXVLQJ FRQVWLSDWLRQ %HFDXVH RI SRRU DEVRUSWLRQ LURQ LQ WKRVH ZLWK FHOLDF GLVHDTVH + S\ORUL DQG *(5'

- *Carrier et al: Iron supplementation increases disease activity and vitamin E ameliorates the effect in rats with dextran sulfate sodium-induced colitis. J Nutr 2002 Oct;132(10):3146-50
- *Erichsen et al: Low-dose oral ferrous fumarate aggravated intestinal inflammation in rats with DSS-induced colitis. In amm Bowel Dis 2005 Aug;11(8):744-8
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- DSDQHVVH D Sesser R. Effects of ulcerative colitis and help heal stomach lesions caused by H. pylori. -

- *Otsuka et al: Suppressive effects of fruit-juice concentrate of Prunus mume Sieb. et Zucc. (Japanese apricot, Ume) on Helicobacter pylori-induced glandular stomach lesions in Mongolian gerbils. Asian Pac J Cancer Prev 2005 Jul-Sep;6(3):337-41
- *Singh et al: Exploring the ameliorative potential of Punica granatum in dextran sulfate sodium induced ulcerative colitis in mice. Phytother Res 2009 Apr 15

ODJQHVLXP GHÁFLHQF\ FDQ FDXVH VHL]XUHV LQ WKRVH WDNLQJ 3

- *Cundy & Dissanayake: Severe hypomagnesaemia in long-term users of proton-pump inhibitors. Clin Endocrinol (Oxf) 2008 Aug;69(2):338-41

ODQJR ÁRZHUV protect the gastric system and help heal ulcers.

- *Lima et al: Can the aqueous decoction of mango leaves be used as an antiulcer agent? Planta Med 2004 Aug;70(8):745-52
- *Severi et al: Polyphenols with antiulcerogenic action from aqueous decoction of mango leaves (Mangifera indica L.). Molecul 2009;14(3):1098-110

Mangosteen LV D IUXLW ZLWK QXPHURXV KHDOWK EHQHÀWV LQFO
DQG DQDOJHVLF SDLQ UHOLHYLQJ DFWLRQ

*Cui et al: New medicinal properties of mangostins: analgesic activity and pharmacological characterization of active ingredients from the fruit hull of *Garcinia mangostana* L. *Anticancer Res* 1998 Sep-Oct;18(5A):3487-91

Melatonin not only can be used to induce sleep but provides a safe and effective
DOWHUQDWLYH WR 33,V LPSURYHV \P SWRPV RI FROLWLWV DQ
ÁX[GLVHVVH UHGXFHV DJLQJ HIIHFWV LQ WKH GLJHVWLYH W
LQÁDPPDWLRQ

- *Akbulut et al: Melatonin decreases apoptosis in gastric mucosa during aging. *Aging Clin Exp Res* 2011 Mar 14
- *Kandil et al: The potential therapeutic effect of melatonin in Gastro-Esophageal Re ux Disease. *BMC Gastroenterol* 2010;10:7
- *Koppiseti et al: Reactive oxygen species and the hypomotility of the gall bladder as targets for the treatment of gallstones with melatonin: a review. *Dig Dis Sci* 2008 Oct;53(10):2592-603
- *Mazzon et al: Melatonin modulates signal transduction pathways and apoptosis in experimental colitis. *J Pineal Res* 2006 Nov;41(4):363-73
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Melatonin and Curcumin protect against the development of medication-induced gastric ulcers.

*Ganguly et al: Hydrogen peroxide-mediated downregulation of matrix metalloproteinase-2 in indomethacin-induced acute gastric ulceration is blocked by melatonin and other antioxidants. *Free Radic Biol Med* 2006 Sep 15;41(6):911-25

MSM PHWK\OVXOIRQ\OPHWKDQH LV D QRQ RGRXURXV VXOIXU F
RI '062 'HULYHG IURP HLWKHU ZRRG SXOS RU IRVVLO IXHOV
determine which supplement comes from which source. However, it appears to have
DQWL LQÁDPPDWRU\ HIIHFWV IRU FROLWLWV DQG RVWHRDUWKU

*Amirshahrokhi et al: The effect of methylsulfonylmethane on the experimental colitis in the rat. *Toxicol Appl Pharmacol* 2011 Jun 15;253(3):197-202

Neem is an herb with natural anti-microbial properties and therefore useful in preventing bacteria-caused ulcers as well as having other gastro-protective effects.

- *Bandyopadhyay et al: Clinical studies on the effect of Neem (*Azadirachta indica*) bark extract on gastric secretion and gastroduodenal ulcer. *Life Sci* 2004 Oct 29;75(24):2867-78
- *Dorababu et al: Effect of aqueous extract of neem (*Azadirachta indica*) leaves on offensive and defensive gastric mucosal factors in rats. *Indian J Physiol Pharmacol* 2006 Jul-Sep;50(3):241-9

Noni fruit controls nausea and vomiting after surgery. It also decreases symptoms
RI UHÁX[HVRSKDJLWLWV DQG JDVWULF XOFHUV

- *Mahattanadul et al: Effects of *Morinda citrifolia* aqueous fruit extract and its biomarker scopoletin on re ux esophagitis and gastric ulcer in rats. *J Ethnopharmacol* 2011 Mar 24 ;134(2):243-50
- *Prapaitrakool & Itharat: *Morinda citrifolia* Linn. for prevention of postoperative nausea and vomiting. *J Med Assoc Thai* 2010 Dec;93 Suppl 7:S204-9

Olive leaves \HV IURP WKH ROLYH WUHH KDYH QXPHURXV KHDOWK
venting the development of non-alcoholic fatty liver.

*Omagari et al: Olive leaf extract prevents spontaneous occurrence of non-alcoholic steatohepatitis in SHR/NDmcr-cp rats. *Pathol* 2010 Jan;42(1):66-72

Orange or Lemon juice KHOSV UHGXFH WKH IRUPDWLRQ RI NLGQH\ VWRO potassium citrate. Stones are often a sign of poor digestion and made worse by antacids.

- *Aras et al: Can lemon juice be an alternative to potassium citrate in the treatment of urinary calcium stones in patients with hypocitraturia? A prospective randomized study. Urol Res 2008 Dec;36(6):313-7
- *Kang et al: Long-term lemonade based dietary manipulation in patients with hypocitraturic nephrolithiasis. J Urol 2007 Apr;177(4):1358-62;disc 1362; quiz 1591
- *Odvina et al: Comparative value of orange juice versus lemonade in reducing stone-forming risk. Clin J Am Soc Nephrol 2006 Nov;1(6):1269-74

Papaya fruit XQULSHQKGV EHQHÀFLDO HIIHFWV RQ JDVWULF XOFHUV ,W gliadin, a protein found in wheat that an increasing number of people are unable to digest.

- *Cornell et al: Papaya latex enzymes capable of detoxification of gliadin. Amino Acids 2009 Jan 21
- *Ezike et al: Carica papaya (Paw-Paw) unripe fruit may be beneficial in ulcer. Int J Oncol 2004 Dec;25(6):1809-15

Papaya leaf extract SURWHFWV WKH JDVWULF V\ VWHP DQG KDV DQWLR[L to vitamin E.

- *Protective effect of Carica papaya L leaf extract against alcohol induced acute gastric damage and blood oxidative stress in rats. West Indian Med J 2008 Sep;57(4):323-6
- *Mehdipour et al: Antioxidant potentials of Iranian Carica papaya juice in vitro and in vivo are comparable to alpha-tocopherol. Phytother Res 2006 Jul;20(7):591-4

Pectin liquid KHOSV RYHUFPH *(5' LQ FKLOGUHQ ZLWK FHUHEUDO SDC

- *Miyazawa et al: Effects of pectin liquid on gastroesophageal reflux disease in children with cerebral palsy. BMC Gastroenterol 2008 Apr 16;8:11

Peppermint oil eases irritable bowel symptoms.

- *Cappello et al: Peppermint oil (Mintoil) in the treatment of irritable bowel syndrome: a prospective double blind placebo-controlled randomized trial. Dig Liver Dis. 2007 Jun;39(6):530-6
- *Freise and Köhler: Peppermint oil-caraway oil mixed combination in non-ulcer dyspepsia--comparison of the effects of enteric preparations. Pharmazie 1999 Mar;54(3):210-5
- *Grigoleit and Grigoleit: Peppermint oil in irritable bowel syndrome. Phytomed 2005 Aug;12(8):601-6
- *Kline et al: Enteric-coated, pH-dependent peppermint oil capsules for the treatment of irritable bowel syndrome in children. J Pediatr 2001 Jan;138(1):125-8
- *Liu et al: Enteric-coated peppermint-oil capsules in the treatment of irritable bowel syndrome: a prospective, randomized trial. J Gastroenterol 1997 Dec;32(6):765-8
- *May et al: Efficacy and tolerability of a mixed combination of peppermint oil and caraway oil in patients suffering from functional dyspepsia. Aliment Pharmacol Ther 2000 Dec;14(12):1671-7
- *Merat et al: The effect of enteric-coated, delayed-release peppermint oil on irritable bowel syndrome. Dig Dis Sci 2010 May;55(5):1385-90

3LQHDSSOH MXLFH IUHVK KDV QDWXUDO HQJ\PHV WKDW GHFU symptoms.

- *Hale et al: Dietary supplementation with fresh and colonic neoplasia in IL-10-deficient mice with colitis. In amm Bowel Dis 2010 Dec;16(12):2012-21

Pomegranates are fruits that protect the digestive tract from alcohol and aspirin-induced GDPDJH DQG SUHYHQWV WKH NLGQH\V IURP IRUPLQJ VWROQ\V 3RF JRRG EDFWHULD SURELRWLFV ZKLFK DUH YLWDO IRU JRRG LJHVW

- *Ajaikumar et al: The inhibition of gastric mucosal injury by Punicagranatum L. (pomegranate) methanolic extract. J Ethnopharmacol 2005 Jan 4;96(1-2):171-6

ACID
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- *Bialonska et al: The effect of pomegranate (*Punica granatum* L.) byproducts and ellagitannins on the growth of human gut bacteria. *J Agric Food Chem* 2009 Sep 23;57(18):8344-9
- *Singh et al: Exploring the ameliorative potential of *Punica granatum* in dextran sulfate sodium induced ulcerative colitis in mice. *Phytother Res* 2009 Apr 15
- *Tugcu et al: Protective effect of a potent antioxidant, pomegranate juice, in the kidney of rats with nephrolithiasis induced by ethylene glycol. *Bone* 2010 Nov;47(5):926-37

Probiotics LPSURYH GLJHVWLRQ DQG LQÁDPPDWRU\ ERZHO FRQGL
IDQWV VWUHQJWKHQ WKH LPPXQH V\WHP LQ DGXOWV DQG LQ
LQ WKH SUHYHQWLRQ RI VXSHUEXJV DQG YDULRXV DXWRLPPXQ
DQG VDIHU WKDQ VLPHWKLFHQ IRU FROLFN\ EDELHV

- *Chermesh I, Eliakim R. Probiotics and the gastrointestinal tract: where are we in 2005? *World J Gastroenterol* 2006;12:853-57
- *Duff: Probiotics at a Glance - www.innvista.com/health/nutrients/probiotics/default.htm
- *Eren et al: Clinical efficacy comparison of *Saccharomyces boulardii* and yogurt in acute non-bloody diarrhea in children: a randomized, controlled, open label study. *Am J Trop Med Hyg* 2010 Mar;82(3):488-91
- *Forchielli & Walker: The role of gut-associated lymphoid tissues and mucosal defence. *Br J Nutr* 2005;93(Suppl 1):S41-8
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- *Heydari et al: A comparison between traditional yogurt and probiotic yogurt in non-inflammatory acute gastroenteritis. *Saudi Med J* 2010 Mar;31(3):280-3
- *Heyman: Effect of lactic acid bacteria on diarrheal diseases. *J Am Coll Nutr* 2000;19:137S-46S
- *Hun: *Bacillus coagulans* significantly improved abdominal pain and bloating in patients with IBS. *Postgrad Med* 2009 Mar;121(2):119-24
- *Indrio et al: *Lactobacillus reuteri* accelerates gastric emptying and improves regurgitation in infants. *Eur J Clin Invest* 2011 Apr;41(4):417-22
- *Johnson-Henry et al: Probiotics reduce bacterial colonization and gastric inflammation in *H. pylori*-infected mice. *Dig Dis Sci* 2004;49:1095-102
- *Ki et al: In vitro inhibition of *Helicobacter pylori* growth and of adherence of *cagA*-positive strains to gastric epithelial cells by *Lactobacillus paraplantarum* KNUC25 isolated from kimchi. *J Med Food* 2010 Jun;13(3):629-34
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- *Kukkonen et al: Long-term safety and impact on infection rates of postnatal probiotic and prebiotic (synbiotic) treatment: randomized, double-blind, placebo-controlled trial. *Pediatrics* 2008;122(1):8-12
- *Lee et al: The effect of *Saccharomyces boulardii* on human colon cells and inflammation in rats with trinitrobenzene sulfonic acid-induced colitis. *Dig Dis Sci* 2008 Jul 10
- *Mennigen & Bruewer: Effect of probiotics on intestinal barrier function. *Ann N Y Acad Sci* 2009 May;1165:183-9
- *Mohamadzadeh & Owen: Reprogramming intestinal immunity is the answer to induced pathogenic inflammation. *Immunother* 2011 Dec;3(12):1415-7
- *Oelschlaeger: Mechanisms of probiotic actions - A review. *Int J Med Microbiol* 2010;300(1):57-62
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- *Paton et al: Designer probiotics for prevention of enteric infections. *Nat Rev Microbiol* 2006;4:193-200
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- *Pina et al: Improvement of intestinal function in cystic fibrosis patients using probiotics. *An Pediatr (Barc)* 2008 Dec;69(6):501-5
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- *Shornikova et al: Bacteriotherapy with Lactobacillus reuteri in rotavirus gastroenteritis. *Pediatr Infect Dis J* 1997;16:1103-7
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- *Tursi et al: Mesalazine and/or Lactobacillus casei in maintaining long-term remission of symptomatic uncomplicated diverticular disease of the colon. *Hepatogastroentero* 2008 May-Jun;55(84):916-20
- *Uchida et al: Yogurt containing Lactobacillus gasseri OLL 2716 (LG21 yogurt) accelerated the healing of acetic acid-induced gastric ulcer in rats. *Biosci Biotechnol Biochem* 2010 Sep 23;74(9):1891-4
- *Van Niel et al: Lactobacillus therapy for acute infectious diarrhea in children: a meta-analysis. *Pediatrics* 2002;109:678-84
- *Vilela et al: Influence of Saccharomyces boulardii on the intestinal permeability of patients with Crohn's disease in remission. *Scand J Gastroenterol* 2008;43(7):842-8
- *Wu & Vallance: Saccharomyces boulardii ameliorates Citrobacter rodentium-induced colitis through actions on bacterial virulence factors. *Am J Physiol Gastrointest Liver Physiol* 2008 Jan;294(1):G295-306
- *Wullt et al: Lactobacillus plantarum 299v enhances the concentrations of fecal short-chain fatty acids in patients with recurrent clostridium difficile-associated diarrhea. *Dig Dis Sci* 2007 Sep;52(9):2082-6

Psyllium LV D VROXEOH ÀEHU WKDW RIWHQ KHOSV WR FRUUHFW GLJHV
EH DV HIIHFWLYH DV PHVDODPLQH DQ DQWL LQÁDPPDWRU\ GUXJ IF

- *Bijkerk et al: Soluble or insoluble fiber in irritable bowel syndrome in primary care? Randomised placebo controlled trial. *BMJ* 2009 Aug 27;339:b3154
- *Fernández-Bañares et al: Randomized clinical trial of Plantago ovata seeds (dietary fiber) as compared with mesalazine in maintaining remission in ulcerative colitis. Spanish Group for the Study of Crohn's Disease and Ulcerative Colitis (GETECCU). *Am J Gastroenterol* 1999 Feb;94(2):427-33
- *Karhunen et al: A psyllium fiber-enriched meal strongly attenuates postprandial gastrointestinal peptide release in healthy young adults. *J Nutr* 2010 Apr;140(4):737-44
- *Rodríguez-Cabezas et al: Dietary fiber down-regulates colonic tumor necrosis factor alpha and nitric oxide production in trinitrobenzenesulfonic acid-induced colitic rats. *J Nutr* 2002 Nov;132(11):3263-71

Psyllium, Mint, Coriander, and Lemonbalm DUH DOO HIIHFWLYH IRU WUHDWLQ
DEOH ERZHO V\QGURPH

- *Vejdani et al: The efficacy of an herbal medicine, Carmint, on the relief of abdominal pain and bloating in patients with irritable bowel syndrome: a pilot study. *Dig Dis Sci* 2006 Aug;51(8):1501-7

Quercetin and Vitamin E G U D P D W L F D O O \ U H G X F H W K H V H Y H U L W \ R H H V R S K
without damage to the gastrointestinal tract.

ACID BLOCKERS

*Murakami et al: Inhibition of gastric H+, K(+)-ATPase by quercetin. J Enzyme Inhib 1992;5(4):293-8

*Venkateswara & Vijayakumar: Effect of quercetin, avonoids and alpha-tocopherol, an antioxidant vitamin, on experimental reflux oesophagitis in rats. J Agric Food Chem 2005 Dec 28;53(26):10306-9

Red Yeast Rice is usually given to lower cholesterol levels but it can also increase

E L O H D F L G H [F U H W L R Q Z K L F K K H O S V G L J H V W L R Q

*Ma et al: Red yeast rice increases excretion of bile acids in hamsters. Biomed Environ Sci 2009 Aug;22(4):269-77

Reishi mushrooms speed the healing of acid-induced ulcers.

*Gao et al: Ganoderma lucidum polysaccharide fractions accelerate healing of acetic acid-induced ulcers in rats. J Med Food 2004 Winter;7(4):417-21

Resveratrol and Piceatannol D P H W D E R O L W H R I 5 H V Y H U D W U R O D U H S R
W K D W S U H Y H Q W F R O L W L V D Q G U H G X F H W K H U L V N R I F R O R Q F D
and prolonged colitis.

*Cui et al: Resveratrol suppresses colitis and colon cancer associated with colitis. Cancer Prev Res (Phila) 2010 Apr;3(4):549-59

*Sánchez-Fidalgo et al: Dietary supplementation of resveratrol attenuates chronic colonic inflammation in mice. Asia Pac J Clin Nutr 2010;19(1):142-50

*Singh et al: Resveratrol (trans-3,5,4'-trihydroxystilbene) induces silent mating type information regulation-1 and down-regulates nuclear transcription factor-kappaB activation to abrogate dextran sulfate sodium-induced colitis. J Pharmacol Exp Ther 2010 Mar;332(3):829-39

*Yao et al: Anti-oxidant effects of resveratrol on mice with DSS-induced ulcerative colitis. Arch Med Res 2010 May;41(4):288-94

*Youn et al: Resveratrol and piceatannol inhibit iNOS expression and NF-kappaB activation in dextran sulfate sodium-induced mouse colitis. Nutr Cancer 2009;61(6):847-54

Rooibos Tea is native to South Africa and used for centuries to relieve spasms and help calm a hyperactive gastrointestinal tract. It is safe even for babies.

*Gilani et al: Antispasmodic effects of Rooibos tea (Aspalathus linearis) is mediated predominantly through K+ channel activation. Basic Clin Pharmacol Toxicol 2006 Nov;99(5):365-73

Sage and Red Sage K D Y H W K H V D P H H I I H F W V D V 3 3 , V E X W Z L W K R X W
V K R X O G Q R W E H W D N H Q Z L W K R W K H U 3 3 , V

*Mayer et al: Gastroprotective constituents of Salvia of cinalis L. Fitoterapia. 2009 Oct;80(7):421-6

*Murakami et al: Effect of salvianolic acid A, a depside from roots of Salvia miltiorrhiza, on gastric H+,K(+)-ATPase. Planta Med 1990 Aug;56(4):360-3

Slippery elm bark is soothing to the digestive tract.

*Natural Medicines Comprehensive Database

*University of Maryland Medical Centre [www.umm.edu/altmed/articles/slippery-elm-000274.htm]

Spices L P S U R Y H W K H L Q W H V W L Q D O Y L O O L T X D O L W \ Z K L F K L V Y L
W L R Q 6 S L F H V W H V W H G L Q F O X G H G E O D F N D Q G U H G S H S S H U V D

*Prakash & Srinivasan: Beneficial influence of dietary spices on the ultrastructure and fluidity of the intestinal brush border in rats. Br J Nutr 2010 Feb 24;113:1-9

Spirulina L V D E O X H J U H H Q D O J D H G H U L Y H G I U R P D T X D W L F F \ D
S O D W H Q V L V \$ I U L F D \$ V L D 6 R X W K \$ P H U L F D \$ U W K U R V S L U D S
\$ U W K U R V S L U D P D [L P D & H Q W U D O \$ P H U L F D , W K D V O R Q J E H H
E H Q H A W V L Q F O X G L Q J W K H S U H Y H Q W L R Q D Q G K H D O L Q J R I E R Z
may be its Selenium and B12 F R Q W H Q W Z K L F K D U H G H A F L H Q W L Q W K R V H

Nature's Pharmacy: Evidence-Based Alternatives to Drugs

- *Bogatov: Selenium deficiency and its dietary correction in patients with irritable bowel syndrome and chronic catarrhal colitis. *Vopr Pitan* 2007;76(3):35-9
- *Coskun et al: The study of biochemical and histopathological effects of spirulina in rats with TNBS-induced colitis. *Bratisl Lek Listy* 2011;112(5):235-43
- *Kumudha et al: Purification, identification, and characterization of methylcobalamin from *Spirulina platensis*. *J Agric Food Chem* 2010 Sep 22;58(18):9925-30

Sprouted Barley LPSURYHV LQÁDPPDWRU\ ERZHO FRQGLWLRQV :KHQ JU
OHJXPHV DUH VSURXWHG JHUPLQDWHG WKH HIIHFW LPSURYHV
sometimes increasing their nutrient content. The process also improves the digestion
RI WKH ÀEHU ZKLFK PDNHV D JRRG IRRG VRXUFH IRU SURELRWLF

- *Araki et al: Germinated barley foodstuff suppresses dextran sulfate experimental colitis in rats: the role of mast cells. *Int J Mol Med* 2007 Feb;19(2):257-62
- *Hanai et al: Germinated barley foodstuff prolongs remission in patients with ulcerative colitis. *Int J Mol Med* 2004 May;13(5):643-7
- *Kanauchi et al: Treatment of ulcerative colitis by feeding with germinated barley foodstuff: first report of a multicenter open control trial. *J Gastroenterol* 2002 Nov;37 Suppl 14:67-72

Steam cooking improves the bile acid-binding effects of foods.

- *Kahlon et al: Steam cooking significantly improves in vitro bile acid binding of collard greens, kale, mustard greens, broccoli, green bell pepper, and cabbage. *Nutr Res* 2008 Jun;28(6):351-7

7HDV KHUËDWHU D PHDO KHOS GLJHVWLRQ RI DGXOWV DQG LPSUR
RI (VVHQWLDORLOV FDQ DOVR EH SXW LQWR KRW ZDWHU DQG W
QHO *LQJHU OHOLVVD 3HSSHUPLQW DUH WKH PRVW HIIHFWLYH
essential oil.

- *Ghayur & Gilani: Pharmacological basis for the medicinal use of ginger in gastrointestinal disorders. *Dig Dis Sci* 2005 Oct;50(10):1889-97
- *Hu et al: Effect of ginger on gastric motility and symptoms of functional dyspepsia. *World J Gastroenterol* 2011 Jan 7;17(1):105-10
- *Nanjundaiah et al: Gastroprotective Effect of Ginger Rhizome (*Zingiber officinale*) Extract: Role of Gallic Acid and Cinnamic Acid in H⁺, K⁺-ATPase/H. pylori Inhibition and Anti-oxidative Mechanism. *Evid Based Complement Alternat Med* 2009 Jul 1
- *No authors listed: Herbal remedies for dyspepsia: peppermint seems effective. *Prescrire Int* 2008 Jun;17(95):121-3
- *Prakash & Srinivasan: Beneficial influence of dietary spices on the ultrastructure and fluidity of the intestinal brush border in rats. *Br J Nutr* 2010 Feb 24:1-9
- *Savino et al: A randomized double-blind placebo-controlled trial of a standardized extract of *Matriaria recutita*, *Foeniculum vulgare* and *Melissa officinalis* (ColiMil) in the treatment of breastfed colicky infants. *Phytother Res* 2005 Apr;19(4):335-40
- *Yamahara et al: The anti-ulcer effect in rats of ginger constituents. *Med Hypoth* 2009 Sep;73(3):306-8
- *Yamahara et al: The anti-ulcer effect in rats of ginger constituents. *J Ethnopharmacol* 1988 Jul-Aug;23(2-3):299-304

Water safely and effectively reduces stomach acids without the use of medications. It
LV EHVW WR GULQN ÀOWHUHG ZDWHU DQG QRW WDS ZDWHU

- *Karamanolis et al: A glass of water immediately increases gastric pH in healthy subjects. *Dig Dis Sci* 2008 Dec;53(12):3128-32

Wheatgrass juice is an effective treatment for ulcerative colitis.

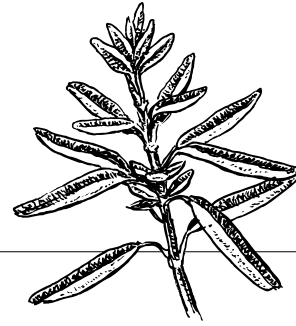
- *Ben-Arye et al: Wheat grass juice in the treatment of active distal ulcerative colitis: a randomized double-blind placebo-controlled trial. *Scand J Gastroenterol* 2002 Apr;37(4):444-9

Yacón root is native to the Andes mountains and showing promise in several health

DUHDV ,WV SUHELRLWF SURSHUWLHV KDYH EHQHÀFLDO HIIHFW
WKH JURZWK RI WKH SURWLRWLF /DFWREDFLOOXV DQG %LÀGR

*Alvarez et al: Prebiotic inulin/oligofructose in Yacón root (*Smallanthus sonchifolius*), phytochemistry and standardization as basis for clinical and pre-clinical research. Rev Gastroenterol Peru 2008 Jan-Mar;28(1):22-7

ACNE



COMMON EXAMPLES :

tretinoin UHWLQRLGV

DGSDOHQH >'LIIHULQ@

LVRWUHWLQRLQ >\$FFXWDQH@

WDJDURWHQH >7DJRUDF \$YDJH =RUDF@

WUHWLQRLQ >5HWLQ \$ 9HVDQRLG@

steroid creams, lotions, ointments VHH HYHQ PRUH 'HSOHWLRQV IURP WKDW

Antibiotics DUH RIWHQ SUHV FULEHG VHH HYHQ PRUH 'HSOHWLRQV I

... and others

DEplete :

A, E, zinc WKH YHU\ QXWULHQWV QHHGHG WR LPSURYH VNLQ FRQGL

SUGGESTED ALTERNATIVES:

AVOID!

Dairy WKHUH DUH RYHU KRUPRQHV LQ GDLU\ LQFOXGLQJ U
ZDWFK WKH VXJDU FDUERK\GUDWH IDW LQWDNH

*Acne: Are Milk and Sugar the Causes? By Mark Hyman, MD, online article in the Huffington Post

*Adebamowo et al: Milk consumption and acne in teenaged boys. J Am Acad Dermatol 2008 May;58(5):787-93

*Adebamowo et al: Milk consumption and acne in adolescent girls. Dermatol Online J 2006;12(4):1

*Adebamowo et al: High school dietary dairy intake and teenage acne. J Am Acad Dermatol 2005, Feb;52(2):207-214

*James et al: Dietary polyunsaturated fatty acids and inflammatory mediator production. Am J Clin Nutr 2000 Jan;71(1 Suppl):343S-8S

*Kaymak et al: Dietary glycemic index and glucose, insulin, insulin-like growth factor-I, insulin-like growth factor binding protein 3, and leptin levels in patients with acne. J Am Acad Dermatol 2007 Nov;57(5):819-23

*Melnik et al: Evidence for acne-promoting effects of milk and other insulinotropic dairy products. Nestle Nutr Workshop Ser Pediatr Program 2011 ;67:131-45

*Smith et al: The effect of a low glycemic load diet on acne vulgaris and the fatty acid composition of skin surface triglycerides. J Dermatol Sci 2008 Jul;50(1):41-52

*Smith et al: The effect of a high-protein, low glycemic-load diet versus a conventional, high glycemic-load diet on biochemical parameters associated with acne vulgaris: a randomized, investigator-masked, controlled trial. J Am Acad Dermatol 2007 Aug;57(2):247-56

*Smith et al: A low-glycemic-load diet improves symptoms in acne vulgaris patients: a randomized controlled trial. *Am J Clin Nutr* 2007 Jul;86(1):107-15

Fast food

*Litt: McDonald's Acne. *Arch Dermatol* 1974;110(6):956

Chocolate K L J K I D W F R Q W H Q W

*Fulton et al: Effect of Chocolate on Acne Vulgaris. *JAMA* 1969;210(11):2071-2074

*Mackie and Mackie: Chocolate and Acne. *Australasian J Derma* 1974 Dec;15(3):103-109

Alternative and Complementary medicine is preferable to acne-sufferers than conventional medicine.

*Magin et al: Complementary and alternative medicine therapies in acne, psoriasis, and atopic-eczema: results of a qualitative study of patients' experiences and perceptions. *J Altern Complement Med* 2006;12:451-7

Antioxidants U H G X F H D F Q H D Q G V N L Q D J L Q J \$ F Q H F D Q D S S H D U D R I K R U P R Q D O F K D Q J H V S R R U G L H W R U V W U H V V \$ Q W L R [L G D C D O O D J H J U R X S V D Q G L Q F O X G H Y L W D P L Q V (D Q G & & R 4 D O S and others. A diet containing plenty of fresh fruits and vegetables, fermented soy SUR G X F W V J R M L E H U U L H V Á D [V H H G D Q G E R U D J H R L O V D O R H S U R Y H Q W R E H L P S R U W D Q W D O R Q J Z L W K H [H U F L V H

*Bouroshaki et al: Protective effect of pomegranate seed oil on hexachlorobutadiene-induced nephrotoxicity in rat kidneys. *Ren Fail* 2010 Jun;32(5):612-7

*Cho et al: Dietary aloe vera supplementation improves facial wrinkles and elasticity and it increases the type I procollagen gene expression in human skin in vivo. *Ann Dermatol* 2009 Feb;21(1):6-11

*Lacroix et al: Supplementation with a complex of active nutrients improved dermal and epidermal characteristics in skin equivalents generated from fibroblasts from young or aged donors. *Gastroenterol Hepatol* 1997 Apr;20(4):172-4

*Neukam et al: Supplementation of flaxseed oil diminishes skin sensitivity and improves skin barrier function and condition. *Skin Pharmacol Physiol* 2010 Nov 18;24(2):67-74

*Puizina-Ivić: Skin aging. *Acta Dermatovenerol Alp Panonica Adriat* 2008 Jun;17(2):47-54

*Reeve et al: Mice drinking goji berry juice (*Lycium barbarum*) are protected from UV radiation-induced skin damage via antioxidant pathways. *Photochem Photobiol Sci* 2010;9:601-607

*Spirt et al: Intervention with flaxseed and borage oil supplements modulates skin condition in women. *Br J Nutr* 2009 Feb;101(3):440-5

*Wang et al: Effects of wolfberry fruit on rat's cryotolerance, oxytolerance and fatigue-tolerance. *J Qiqihar Med* 2002-01

*Yoshimura et al: Inhibitory effect of an ellagic acid-rich pomegranate extract on tyrosinase activity and ultraviolet-induced pigmentation. *Biosci Biotechnol Biochem* 2005 Dec;69(12):2368-73

Beta carotene Y L W D P L Q \$ D Q G Vitamin E play important roles in reducing and preventing acne.

*El-Akawi et al: Does the plasma level of vitamins A and E affect acne condition? *Clin Exp Dermatol* 2006 May;31(3):430-4

*Labadarios et al: Vitamin A in acne vulgaris. *Clin Exp Dermatol* 1987;12:432-6

Brewer's Yeast 6 D F F K D U R P \ F H V F H U H Y L V L D H L V Q R W W K H V D P H D W K H U H I R U H D E H Q H Å F L D O I R R G K L J K L Q W U D F H Q X W U L H Q W V

*Weber et al: Treatment of acne with a yeast preparation. *Fortschr Med* 1989 Sep 10;107(26):563-6

Nature's Pharmacy: Evidence-Based Alternatives to Drugs

Diet changes toward proper nutrition are crucial – which will not only help acne but is vital for any age but especially for teens who are going through hormonal changes.

- *Adebamowo et al: High school dietary dairy intake and teenage acne. *J Am Acad Dermatol* 2005 Feb;52(2):207-14
- *Anderson: Foods as the cause of acne. *Am Fam Physician* 1971 Mar;3(3):102-3
- *Cordain, PhD: Implications for the Role of Diet in Acne. *Seminars in Cutaneous Medicine and Surgery* 2005 June;24(2):84-91
- *Cordain et al: Diet and Acne Revisited. *Arch Dermatol* 2002;138(12):1591-1592
- *Cordain et al: Acne vulgaris: a disease of Western civilization. *Arch Dermatol* 2002 Dec;138(12):1584-90
- *Danby: Nutrition and acne. *Clinics in Dermatol* 2010;28:598-604
- *Logan et al: Dietary fat, ber, and acne vulgaris. *J Am Acad Derma* 2007;57(6):1092-93
- *Rasmussen et al: Diet and Acne. *Inter J Derma* 1977 Jul;16(6):488-92
- *Smith et al: The effect of a high-protein, low glycemic-load diet versus a conventional, high glycemic-load diet on biochemical parameters associated with acne vulgaris: A randomized, investigator-masked, controlled trial. *J Am Acad Derma* 2007 Aug;57(2):247-256
- *Spencer et al: Diet and acne: a review of the evidence. *Int J Dermatol* 2009 Apr;48(4):339-47
- *Wolf et al: Acne and diet. *Clinic Derma* 2004 Sep-Oct;22(5):387-393

Echinacea LV DQ KHUE ZHOO NQRZQ IRU LWV LPPXQH ERRVWLQJ DQV ,W UHGXFHV DFQH E\ LQKLELWLQJ EDFWHULDO LQGXFHG LQÁDPP

- *Sharma et al: The potential use of Echinacea in acne: control of Propioni bacterium acnes growth and in ammation. *Phytother Res* 2010 Sep 9

EGCG HSLJDOORFDWHFKLQ JDOODWH LV D SRWHQW DQWLR[LG can improve hormone-induced acne.

- *Shaw: Green tea polyphenols may be useful in the treatment of androgen-mediated skin disorders. *Arch Dermatol* 2001;137:664
- *Vignes et al: Anxiolytic properties of green tea polyphenol (-)-epigallocatechin gallate (EGCG). *Brain Res* 2006;1110:102-15

Essential oils are potent antimicrobials that can be applied topically to reduce acne LQIHFWLRQV %DVLO 5RVHPDU\ DQG 7HD 7UHH 0HODOHXFD

- *Bassett et al: A comparative study of tea-tree oil versus benzoylperoxide in the treatment of acne. *Med J Aust* 1990 Oct 15;153(8):455-8
- *Fu et al: Investigation of antibacterial activity of rosemary essential oil against Propioni bacterium acnes with atomic force microscopy. *Planta Med* 2007 Oct;73(12):1275-80
- *Sharquie et al: Treatment of acne vulgaris with 2% topical tea lotion. *Saudi Med J* 2006 Jan;27(1):83-5
- *Viyoch et al: Evaluation of in vitro antimicrobial activity of Thai basil oils and their micro-emulsion for mulas against Propionibacterium acnes. *Br J Nutr* 2005 Jan;93(1):81-91

Green tea lotion LV DQ LQH[SHQVLYH EXW DQ HIIHFWLYH WRSLFDO WUH

- *Elsaie et al: The ef cacy of topical 2% green tea lotion in mild-to-moderate acne vulgaris. *J Drugs Dermatol* 2009 Apr;8(4):358-64

Guggul is an Ayurvedic herb often used to control Cholesterol levels but it is proving XVHIXO LQ WUHDWLQJ GLIÀFXOW F\ VWLF DFQH EHWWHU WKDQ WI

- *Thappa and Dogra: Nodulocystic acne: oral gugulipid versus tetracycline. *J Derma* 1994 Oct;21(10):729-31

Homeopathic Medicines can successfully treat acne.

- *Itamura et al: Effect of homeopathic treatment of 60 Japanese patients with chronic skin disease. *Compl Therap Med* 2007 June;15(2):115-120

Hops is an herb used in the brewing industry and often used as a calming agent but it also prevents acne-causing bacteria.

*Yamaguchi et al: In vitro evaluation of antibacterial, anticollagenase, and antioxidant activities of hop components (*Humulus lupulus*) addressing acne vulgaris. *Phytomed* 2009 Apr;16(4):369-76

Licorice root has better effects in reducing bacterial-induced acne than erythromycin.

*Nam et al: Anti-acne effects of Oriental herb extracts: a novel screening method to select anti-acne agents. *Mol Nutr Food Res* 2008 Jul 24

Mangosteen is a fruit that has free radical-scavenging properties and anti-acne effects.

*Pothitirat et al: Anti-acne-inducing bacterial activity of mangosteen fruit rind extracts. *Med Princ Pract* 2010;19(4):281-6

Melatonin LV RIWHQ WKRXJKW RI DV EHLQJ MXVW IRU LQGXFLLQJ
RWKHU IXQFWLRQV LQFOXGLQJ WKH LPSURYHHPHQW RI VNLQ FR

*Edefo et al: Potent therapeutic effect of melatonin on aging skin in pinealectomized rats. *J Pineal Res* 2005 Oct;39(3):231-7

Minerals, especially Zinc > LQWHUQDO DQG WRSCHROD@, Selenium, and Copper along with B vitamins LPSURYH DFQH DQG RWKHU VNLQ FRQG as relieving some of the depression that often accompanies the condition.

*Benton: Selenium intake, mood and other aspects of psychological functioning. *Nutr Neurosci* 2002;5:363-74

*Davidson et al: Effectiveness of chromium in atypical depression: a placebo-controlled trial. *Bio Psych* 2003;53:261-4

*Dreno et al: Effect of zinc gluconate on propionibacterium acnes resistance to erythromycin in patients with inflammatory acne: in vitro and in vivo study. *Eur J Dermatol* 2005;15:152-5

*Dreno et al: Low doses of zinc gluconate for inflammatory acne. *Acta Derm Venereol* 1989;69(6):541-3

*Katzman & Logan: Acne vulgaris: nutritional factors may be influencing psychological sequelae. *Med Hypoth* 2007;69:1080-4

*Levenson: Zinc: the new antidepressant? *Nutr Rev* 2006;64:39-42

*Loney et al: Not just 'skin deep': psychosocial effects of dermatological-related social anxiety in a sample of acne patients. *J Health Psychol* 2008;13:47-54

*McCarty: High-chromium yeast for acne? *Med Hypoth* 1984;14:307-10

*Micaelsson: Decreased concentration of selenium in whole blood and plasma in acne vulgaris. *Acta Derm Venereol* 1990;70:92

*Niren & Torok: The nicamide improvement in clinical outcomes study (NICOS): results of an 8-week trial. *Cutis* 2006 Jan;77(1 Suppl):17-28

*Ronald & Cochran: Topical zinc therapy for acne vulgaris. *Inter J Derma* 1985 Apr;24(3):188-190

*Thomas: Psychosocial effects of acne. *J Cutan Med Surg* 2004;8(Suppl 4):3-5

*Verma et al: Oral zinc sulphate therapy in acne vulgaris: a double-blind trial. *Acta Derm Venereol* 1980;60(4):337-40

Niacinamide DIRUP RI QLD Silcosamine improve acne, rosacea, and
VNLQ GLVFRORXUDWLRQV K\SHUSLJPHQWDWLRQ

*Bissett et al: Reduction in the appearance of facial hyperpigmentation by topical N-acetyl glucosamine. *J Cosmet Dermatol* 2007 Mar;6(1):20-6

*Niren & Torok: The nicamide improvement in clinical outcomes study (NICOS): results of an 8-week trial. *Cutis* 2006 Jan;77(1 Suppl):17-28

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Omega-3 fatty acids Á D [RU À VK RLOV VDFKD LQFKL VHHGV UHGXFH DF
VRPHWLPHV FDXVHG E \ D GLHW WKDW LV WRR KLJK LQ RPHJD 2
depression often associated with the condition.

- *Conklin et al: High omega-6 and low omega-3 fatty acids are associated with depressive symptoms and neuroticism. *Psychosom Med* 2007;69:932-4
- *Fontani et al: Cognitive and physiological effects of Omega-3 polyunsaturated fatty acid supplementation in healthy subjects. *Eur J Clin Invest* 2005;35:691-9
- *Freeman et al: Omega-3 fatty acids: evidence basis for treatment and future research in psychiatry. *J Clin Psych* 2006;67:1954-67
- *Logan: Linoleic and linolenic acids and acne vulgaris. *Br J Dermatol* 2008;158:201-2
- *Logan et al: Omega-3 fatty acids and acne. *Arch Dermatol* 2003 Jul;139(7):941-2
- *Rubin et al: Acne vulgaris, mental health and omega-3 fatty acids: a report of cases. *Lipids in Health and Disease* 2008;7:36

Prebiotic makeup LV IDU KHDOWKLHU IRU WKH VNLQ WKDQ FKHPLFD
biotic brands.

- *No authors listed: Prebiotic cosmetics: an alternative to antibacterial products. *Int J Cosmet Sci.* 2007;29(1):63-4

Probiotics and Fiber promote healthy immune and digestive systems which in turn,
UHGXFH WKH ULVN RI GHYHORSQJ DFQH DQG RWKHU VNLQ SURE

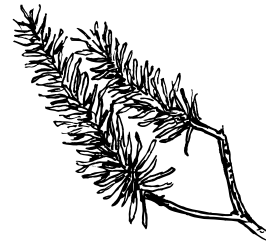
- *Al-Ghazzewi & Tester: Effect of konjac glucomannan hydrolysates and probiotics on the growth of the skin bacterium *Propionibacterium acnes* in vitro. *Internl J Cosmet Sci* 2010 Apr;32(2):139-42
- *Bowe and Logan: Acne vulgaris, probiotics and the gut-brain-skin axis - back to the future? *Gut Pathog* 2011;3(1):1
- *Kim et al: Dietary effect of lactoferrin-enriched fermented milk on skin surface lipid and clinical improvement of acne vulgaris. *Nutr* 2010 Sept;26(9):902-9
- *Krutmann et al: Pre- and probiotics for human skin. *J Dermatol Sci* 2009 Apr;54(1):1-5
- *Ouwehand et al: Probiotics: an overview of beneficial effects. *Antonie van Leeuwenhoek* 2002 Aug;82(1-4):279-89

Resveratrol LV D SRWHQW DQWLR[LGDQW IRXQG PDLQO \ LQ WKH VNLQ
EH XVHG WRSLFDOO \ RU LQWHUQDOO \ WR WUHDW DFQH \$OO DQV
issues by preventing the damaging effects of free radicals.

- *Coenye et al: Eradication of *Propionibacterium acnes* biofilms by plant extracts and putative identification of icariin, resveratrol and salidroside as active compounds. *Phytomed* Available online 1 February 2012
- *Docherty et al: Resveratrol inhibition of *Propionibacterium acnes*. *J Antimicrob Chemother* 2007;59(6):1182-84
- *Fabbrocini et al: Resveratrol-containing gel for the treatment of acne vulgaris: a single-blind, vehicle-controlled, pilot study. *Am J Clin Dermatol* 2011 Apr 1;12(2):133-41

Vitamin D3 LV DFWXDOO \ D SUH KRUPRQH ZKLFK PLJKW -H[SODLQ LV
LQJ VHYHUDO KRUPRQDO LVVXH V LQFOXGLQJ DFQH ' FDQ EH R
VXSSOHPHQWV DQG VLJQLÁFDQWO \ LPSURYHV WKH LPPXQH V\W
KDV GLIIHUHQW DFWLRQ LQ WKH ERG \ DQG RQH WKH ERG \ FDQQR

- *Berg: Epidemiological studies of the influence of sunlight on the skin. *Photodermatol* 1989 Apr;6(2):80-4
- *Haussler et al: Molecular biology of the vitamin D hormone. *Recent Prog Horm Res* 1988;44:263-305
- *Silverberg & Weinberg: Rosacea and adult acne: a worldwide epidemic. *Cutis* 2001;68:85
- *Wootton: Improving the Measurement of 25-hydroxyvitamin D. *Clin Biochem Rev* 2005 Feb;26(1):33-36



ADHD/ NARCOLEPSY

(USED TO TREAT ATTENTION DEFICIT HYPERACTIVITY DISORDER [AN AUTISM SPECTRUM DISORDER] AND NARCOLEPSY [A SLEEP DISORDER])

COMMON EXAMPLES :

- amphetamines – Adderall, and others
- dextroamphetamines – 'H[HGULQH 'H[WUR6WDW DQG RWKHUV
- lisdexamfetamine – 9\YDQVH
- methamphetamines 2 LOOHJDO EXW LQ WKH VDPH FODVV RI GUX
- methylphenidate – &RQFHUWD 'D\WUDQD 0HWDGDWH, Hother WK\OLQ R
- PRGDÀQLO 2 \$OHUWHF 3URYLJLO 6SDUORQ 9LJLFHU DQG
- pemoline – Cylert

DEplete :

B6, B7, C, D, E, magnesium, zinc, tyrosine

- For over forty years, I have witnessed transformations in dozens of children, LQFOXGLQJ P\ RZQ VLPSo\ ZLWK GLHW FKDQJHV 'HVSLWH N PDNH D GLIIHUHQFH LQ WKHLU FKLOG IDU WRR PDQ\ SDU the necessary changes.
 - *Chaves-Carballo: Diet therapy in the treatment of neuropsychiatric disorders. Rev Neurol 2003 Aug 1-15;37(3):267-74
- ADHD drugs often hurt more than help.
 - *Death by Ritalin: The Truth Behind ADHD. National Alliance Against Mandated Mental Health Screening and Psychiatric Drugging of Children - www.ritalindeath.com/
 - *Gualtieri and Johnson: Medications do not necessarily normalize cognition in ADHD patients. J Atten Disord 2008 Jan;11(4):459-69
 - *Marks: Cardiomyopathy due to ingestion of Adderall. Am J Ther 2008 May-Jun;15(3):287-9
 - *Moore et al: Prescription drugs associated with reports of violence towards others. "RESULTS: We identified 1527 cases of violence disproportionately reported for 31 drugs." PLoS One 2010;5(12):e15337
 - *Pliszka et al: Comparative effects of methylphenidate and mixed salts amphetamine on height and weight in children with attention-deficit/hyperactivity disorder. J Am Acad Child Adolesc Psychiatry 2006 May;45(5):520-6
 - *Smith et al: Cardiomyopathy associated with amphetamine administration. Am Heart J 1976;91(6):792-7
- Anesthesia drugs IRU VXUJLFDO SURFHGXUHV DUH OLQNHG WR D V ULVN IRU SRVW \$'+ DQG EUDLQ GDPDJH

Nature's Pharmacy: Evidence-Based Alternatives to Drugs

*Sprung et al: Attention-Deficit/Hyperactivity Disorder after early exposure to procedures requiring general anesthesia. *Mayo Clinic Proceedings* 2012 Feb;87(2):120-129

Drugs have little effect but alternatives do and without the side effects.

*Arnold: Alternative treatments for adults with attention-deficit hyperactivity disorder (ADHD). *Ann N Y Acad Sci* 2001 Jun;931:310-41

*Cala et al: A survey of herbal use in children with ADHD or depression. *Pharmacotherapy* 2003 Feb;23(2):222-30

*Chan et al: Complementary and alternative therapies in childhood attention and hyperactivity problems. *J Dev Behav Pediatr* 2003 Feb;24(1):4-8

*Harding et al: Outcome-based comparison of Ritalin versus food-supplement treated children with AD/HD. *Altern Med Rev* 2003, Aug;8(3):319-30

*Kidd: Attention deficit/hyperactivity disorder (ADHD) in children: rationale for its integrative management. *Altern Med Rev* 2000;5(5):402-28

*Schoenthaler and Bier: The effect of vitamin-mineral supplementation on juvenile delinquency among American schoolchildren: a randomized, double-blind placebo-controlled trial. *J Altern Complement Med* 2000 Feb;6(1):7-17

*Sinha and Efron: Complementary and alternative medicine use in children with ADHD. *J Paediatr Child Health* 2005 Jan/Feb;41(1-2):23-6

Ritalin acts like cocaine.

*Vastag: Pay attention: ritalin acts much like cocaine. *JAMA* 2001 Aug 22-29;286(8):905-6

Sugar and sugar substitutes DOVR DFW OLNH GUXJV \$VSDUWDPH LQ SD OLQNHG WR FHUWDLQ PHQWDO GLVRUGHUV DQG FRPSURPLV functioning.

*Avena et al: Sugar-dependant rats show enhanced responding for sugar after abstinence: Evidence of a sugar deprivation effect. *Physio Behav* 2005;84:359-362

*Humphries et al: Direct and indirect cellular effects of aspartame on the brain. *Eur J Clin Nutr* 2008 Apr;62(4):451-62

*Rada et al: Daily bingeing on sugar repeatedly releases dopamine in the accumbens shell. *Neurosc* 2005;134:737-744

*Weil & Rosen: Chocolate to morphine: Understanding mind-active drugs. 1983

*Wender and Solanto: Effects of sugar on aggressive and inattentive behavior in children with attention deficit disorder with hyperactivity and normal children. *Pediatrics* 1991 Nov;88(5):960-6

*Wolraich et al: Effects of diets high in sucrose or aspartame on the behavior and cognitive performance of children. *N Engl J Med* 1994 Feb 3;330(5):301-7

Food colouring and preservatives DIIHFW EHKDYLRU OLYHU WR[LFLW\ GLJHVWLYH WUDFW LQ \$'+ ' FKLOGUHQ

*Ashida et al: Synergistic effects of food colors on the toxicity of 3-amino-1,4-dimethyl-5H-pyrido[4,3-b]indole (Trp-P-1) in primary cultured rat hepatocytes. *J Nutr Sci Vitaminol (Tokyo)* 2000 Jun;46(3):130-6

*Bateman et al: The effects of a double blind, placebo controlled, artificial food colourings and benzoate preservative challenge on hyperactivity in a general population sample of preschool children. *Arch Dis Child* 2004 Jun;89(6):506-11

*Berdonces: Attention deficit and infantile hyperactivity. *Rev Enferm* 2001 Jan;24(1):11-4

*Boris and Mandel: Foods and additives are common causes of the attention deficit hyperactive disorder in children. *Ann Allergy* 1994 May;72(5):462-8

*Connors et al: Food additives and hyperkinesis: a controlled double-blind experiment. *Pediatr* 1976 Aug;58(2):154-66

*Howard et al: ADHD is associated with a "Western" dietary pattern in adolescents. *J Attn Dis* 2010 Jul 14

*McCann et al: Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children

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- *Park et al: Risk assessment for the combinational effects of food color additives: neural progenitor cells and hippocampal neurogenesis. J Toxicol Environ Health A 2009;72(21-22):1412-23
- *Rowe and Rowe: Synthetic food coloring and behavior, a dose response effect in a double-blind, placebo controlled, repeated-measures study. J Pediatr 1994 Nov;125(5 Pt1):691-8
- *Schab and Trinh: Do artificial food colors promote hyperactivity in children with hyperactive syndromes? A meta-analysis of double-blind placebo-controlled trials. J Dev Behav Pediatr 2004 Dec;25(6):423-34
- *Tanaka et al: Effects of tartrazine on exploratory behavior in a three-generation toxicity study in mice. Reprod Toxicol 2008 Oct;26(2):156-63
- *Tanaka: Reproductive and neurobehavioural toxicity study of tartrazine administered to mice in the diet. Food Chem Toxicol 2006 Feb;44(2):179-87
- *Tsuda et al: DNA damage induced by red food dyes orally administered to pregnant and male mice. Toxicol Sci 2001 May;61(1):92-9

Environmental triggers FDQ DJJUH YDWH \$'+ ' LQFOXGLQJ FKHPLFD SROOXWDQWV PROGV KHDY\ PHWDOV YDFFLQHV DQG QX

- *Blaylock: A possible central mechanism in autism spectrum disorders, part 1. Altern Ther Health Med 2008 Nov-Dec;14(6):46-53
- *Rice: Parallels between ADHD and behavioral deficits produced by neurotoxic exposure in monkeys. Environ Health Perspect 2000 Jun;108 Suppl 3:405-8
- *Richmand: Hypothesis: Conjugate vaccines may predispose children to autism spectrum disorders. Med Hypotheses 2011 Oct 10
- *Singh: Phenotypic expression of autoimmune autistic disorder (AAD): a major subset of autism. Ann Clin Psych 2009 Jul-Sep;21(3):148-61

SUGGESTED ALTERNATIVES:

Amino Acids DUH SURWHLQ EXLOGGLQJ EORFNV 6HYHUDO DUH HVVHC FKLOGUHQ DQG LQFOXGH *OXWDPLQH \$UJLQLQH DQG 7DXULQ VHHQ DV VDOW FUDYLQJV \$FFRUGLQJ WR WKLW VWXG\ '6HYH D WDXULQH WR VXSSUHV V YDVRSUHVVLQ DQG UHSOHLVK DV IRU LQWHVWLQHV DQG EUDLQ F DUJLQLQH WR VSDUH JOXW LQFUHDVH EUDLQ EORRG ÁRZ DQG G RUDO UHK\GUDWLRQ V K\SRQDWUHLQ μ 127(5HK\GUDWLRQ VDOWV FDOUHL PDGH VL VHD VDOW QRW ZKLW ZLWK SXUH ZDWHU &RORXUH VHD VDQ QRW MXVW VRGLXP FKORULGH IRXQG LQ WKH SURFHVVHG ZKLW

- *Good: Do salt cravings in children with autistic disorders reveal low blood sodium depleting brain taurine and glutamine? Med Hypoth 2011 Sep 16

Antioxidants, VXFK DV &DUQRVLQH DQG 9LWDPLQ & VLJQLÁFDQW stress common in the autism spectrum children. Carnosine is produced in the body from two amino acids - alanine and histidine.

- *McGinnis: Oxidative stress in autism. Altern Ther Health Med 2004 Nov-Dec;10(6):22-36; quiz 37, 92

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Carnitine is a non-essential amino acid that boosts brain energy while reducing impulse behaviour.

- *Adriani et al: Acetyl-L-carnitine reduces impulsive behaviour in adolescent rats. Psychopharma 2004 Nov;176(3-4):296-304
- *Torrioli et al: A double-blind, parallel, multicenter comparison of L-acetylcarnitine with placebo on the attention de cit hyperactivity disorder in fragile X syndrome boys. Am J Med Genet A 2008 Apr 1;146(7):803-12
- *Van Oudheusden & Scholte: Ef cacy of carnitine in the treatment of children with attention-de cit hyperactivity disorder. Prostaglandins Leukot Essent Fatty Acids 2002 Jul;67(1):33-8

Chamomile LV DQ KHUE ZHOO NQRZQ IRU LWV FDOPLQJ HIIHFW

- *Niederhofer: Observational study: Matricaria chamomilla may improve some symptoms of attention-de cit hyperactivity disorder. Phytomed 2009 Apr;16(4):284-6

Digestive enzymes at every meal. While digestive enzymes high in proteases do

KHOS WKH (Q)\PHGLFD EUDQG GRHV PDNH D VLJQLIFDQW GLIIHU LQFOXGLQJ \$'+ ZKLFK LV D SDUW RI WKH VSHFWUXP \$V D UHVX WKH FRPSDQ\ KDV MRLQHG IRUFHV ZLWK WKH DXWLVP FRPPXQLW

- *www.enzymedicablog.com/category/autism-and-digestive-enzymes/from-the-front-lines-of-autism/
- *see Reference section for books by Bock, Bohager, Buckley, McCarthy and Matthews

Flaxoil RPHJD DV C VLJQLÀFDQWO\ LPSURYH EHKDYLRUDO V\PSWR

- *Joshi et al: Supplementation with ax oil and vitamin C improves the outcome of Attention De cit Hyperactivity Disorder (ADHD). Prostaglandins Leukot Essent Fatty Acids 2006 Jan;74(1):17-21

Ginseng and Ginkgo biloba DUH KHUEV WKDW LPSURYH \$'+ V\PSWRPV

- *Lyon et al: Effect of the herbal extract combination Panax quinquefolium and Ginkgo biloba on atten tion-de cit hyperactivity disorder: a pilot study. J Psychiatry Neurosci 2001 May;26(3):221-8

* OXWDWKLRQH GHÀFLIWHQ IRXQG LQ DXWLVP VSHFWUXP NLGV * 'PDVWHU DQWLR[LGDQWµ LV YLWDO IRU WKH OLYHU·V DELOLW PHWDEROL]H QXWULHQWV * OXWDWKLRQH FDQ EH VWLXPXODWHG L

as Whey protein, Alpha-lipoic acid, Arginine, and Selenium. It has poor absorption as a stand-alone supplement.

- *McCarthy (an excellent description on glutathione function by Dr. Jerry Kartzinel on pp 206-15)
- *see Reference section for books by Bock, Buckley and Matthews

Gluten- and Dairy-free diet LPSURYH \$'+ V\PSWRPV DV ZHOO DV DFFRPSD digestive issues.

- *Whiteley et al: The ScanBrit randomised, controlled, single-blind study of a gluten- and casein-free diet ary intervention for children with autism spectrum disorders. Nutr Neurosci 2010 Apr;13(2):87-100
- *see Reference section for books by Bock, Buckley, McCarthy and Matthews

Goji berries/Wolfberry KDYH VLJQLÀFDQW SUHQDWDO HIIHFWV RQ WKH ODV ities of the offspring. They also have a neuroprotective effects and improve eyesight.

- *Amagase & Nance: A randomized, double-blind, placebo-controlled, clinical study of the gen eral effects of a standardized Lycium barbarum (Goji) Juice, GoChi. J Alt Compl Med 2008 May;14(4):403-12
- *Feng et al: A milk-based wolfberry preparation prevents prenatal stress-induced cognitive impairment of offspring rats, and inhibits oxidative damage and mitochondrial dysfunction in vitro. Neurochem Res 2010 Feb 5

*Yu et al: Neuroprotective effects of anti-aging oriental medicine Lycium barbarum against beta-amyloid peptide neurotoxicity. *Exp Gerontol* 2005 Aug-Sep;40(8-9):716-27

Healthy Lifestyle Changes DUH EHLQJ HIIHFWLYHO\ XVHG E\ PDQ\ SDUH WUHDWPHQW IRU \$'+ ' V\PSWRPV

- *Attention deficit hyperactivity disorder - Other Treatments. U Maryland Med Center online
- *Bosmier: Health lifestyle changes are being used by many parents as first-line ADHD treatment. *NaturalNews*, January 31, 2012
- *Children With ADHD Benefit from Healthy Lifestyle Options as First-Line Treatment. *ScienceDaily*, January 24, 2012

,URQ GHÀFRHFRXUV LQ RYHU RI \$'+ ' NLGV ,URQ LV D YLWDO for producing proper dopamine neurotransmission in the brain which is responsible for healthy central nervous system function.

- *Konofal et al: Iron deficiency in children with ADHD. *Arch Pediatr Adolesc Med* 2004 Dec;158(12):1113-5
- *Konofal et al: Effects of iron supplementation on attention deficit hyperactivity disorder in children. *Pediatr Neurol* 2008 Jan;38(1):20-6

Magnesium and B6 ERRVW ORZ VHURWRQLQ OHYHOV DQG LPSUR symptoms.

- *Mousain-Bosc et al: Magnesium Vit B6 intake reduces central nervous system hyperexcitability in children. *J Am Coll Nutr* 2004 Oct;23(5):545S-8S
- *Mousain-Bosc et al: Improvement of neurobehavioral disorders in children supplemented with magnesium-vitamin B6. II. Pervasive developmental disorder-autism. *Magnes Res* 2006 Mar;19(1):53-62
- *Strambi et al: Magnesium profile in autism. *Int J Neurosci* 2008 Jan;118(1):59-77
- *Starobrat-Hermelin et al: The effects of magnesium physiological supplementation on hyperactivity in children with ADHD. Positive response to magnesium oral loading test. *Magnes Res* 1997 Jun;10(2):149-56

Melatonin LV D VDIH WUHDWPHQW IRU VOHHS GLVWXUEDQFHV LQ D

- *Paavonen et al: Effectiveness of melatonin in the treatment of sleep disturbances in children with Asperger disorder. *Pharmacoepidemiol Drug Saf* 2009 Dec;18(12):1143-9
- *Waddell et al: A randomized, placebo-controlled trial of controlled release melatonin treatment of delayed sleep phase syndrome and impaired sleep maintenance in children with neurodevelopmental disabilities. *J Pineal Res* 2008 Jan;44(1):57-64

Omega-3 fatty acids ÁD[RU ÀVK RLOV VDFKD LQFKL VHHGV VLJQLÀ behaviour, attention, and focus.

- *Bélanger et al: Omega-3 fatty acid treatment of children with attention-deficit hyperactivity disorder: A randomized, double-blind, placebo-controlled study. *Paediatr Child Health* 2009 Feb;14(2):89-98
- *Haag: Essential fatty acids and the brain. *Can J Psychiatry* 2003 Apr;48(3):195-203
- *Hirayama et al: Effect of docosahexaenoic acid-containing food administration on symptoms of ADHD - a placebo-controlled double-blind study. *Eur J Clin Nutr* 2004 Mar;58(3):467-73
- *Johnson et al: Omega-3/omega-6 fatty acids for attention deficit hyperactivity disorder: a randomized placebo-controlled trial in children and adolescents. *J Atten Disord* 2009 Mar;12(5):394-401
- *Joshi et al: Supplementation with fish oil and vitamin C improves the outcome of Attention Deficit Hyperactivity Disorder (ADHD). *Prostaglandins Leukot Essent Fatty Acids* 2006 Jan;74(1):17-21
- *Richardson & Puri: The potential role of fatty acids in attention-deficit/hyperactivity disorder. *Prostaglandins Leukot Essent Fatty Acids* 2000 Jul-Aug;63(1-2):79-87
- *Sinn: Physical fatty acid deficiency signs in children with ADHD symptoms. *Prostaglandins Leukot Essent Fatty Acids* 2007 Aug;77(2):109-15

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- *Sorgi et al: Effects of an open-label pilot study with high-dose EPA/DHA concentrates on plasma phospholipids and behavior in children with attention deficit hyperactivity disorder. *Chem Biol Interact* 2008 Nov 25;176(2-3):121-8
- *Stevens et al: EFA supplementation in children with inattention, hyperactivity, and other disruptive behaviors. *Lipids* 2003 Oct;38(10):1007-21
- *Vaisman et al: Correlation between changes in blood fatty acid composition and visual sustained attention performance in children with inattention: effect of dietary n-3 fatty acids containing phospholipids. *Am J Clin Nutr* 2008 May;87(5):1170-80
- *Voigt et al: A randomized, double-blind, placebo-controlled trial of docosahexanoic acid supplementation in children with ADHD. *J Pediatr* 2001 Aug;139(2):189-96

Phospholipids OHFLWKLQ SKRVSKDWLG\OFKROLQH SKRVSKDWLG\OVH
WKDW DUH UHTXLUHG E\ DOO FHOOV IRU SURSHU IXQFWLRQLQJ
VSHFWUXP FKLOGUHQ 1DWXUDO IRRG VRXUFHV LQFOXGH IDWW\

avoid the trans fats found in processed foods.

- *Wiest et al: Plasma fatty acid profiles in autism: a case-control study. *Prostaglandin Leukot Ess Fat Acid* 2009 Apr;80(4):221-7
- *see References for books by Bock and Matthews
- *Hirayama et al: Effect of phosphatidylserine administration on symptoms of attention-deficit/hyperactivity disorder in children. *Agro Food Indust* 2006, Sept/Oct:17(5):32-36
- *Jin et al: Striatal neuronal loss or dysfunction and choline rise in children with ADHD: a 1H-magnetic resonance spectroscopy study. *Neurosci Lett* 2001 Nov 23;315(1-2):45-8
- *Jorissen et al: The influence of soy-derived phosphatidylserine on cognition in age-associated memory impairment. *Nutr Neurosci* 2001;4(2):121-34
- *Manor et al: Efficacy and safety of N-3 phosphatidylserine in children with attention deficit and hyperactivity disorder (ADHD). *Eur Psych* 2009;24(1):S12
- *Manora et al: The effect of phosphatidylserine containing Omega3 fatty-acids on attention-deficit hyperactivity disorder symptoms in children: A double-blind placebo-controlled trial, followed by an open-label extension. *Eur Psych* online July 31, 2011

Probiotics in high doses and multiple strains improve digestion, the immune system and brain function.

- *see References for books by Bock, Bohager, Buckley, McCarthy, and Matthews

Protein JRRG TXDOLW\ DQG HDV\ WR GLJHVW IRUPV HQKDQFHV
PLQLPL]LQJ \$'+ ' V\PSWRPV \$GGLQJ SURELRWLFV DQG GLJHVWLYH

digestion and absorption of all foods but especially proteins.

- *Zavala et al: Imbalance of plasma amino acids in patients with autism and subjects with ADHD. *Rev Neurol* 2001 Sep 1-15;33(5):401-8

Pycnogenol LV DQ DQWLR[LGDQW GHULYHG IURP SLQH EDUN WKDW
EHQHÀWV LQFOXGLQJ PRGLI\LQJ \$'+ ' EHKDYLRXU

- *Dvoráková et al: The effect of polyphenolic extract from pine bark, Pycnogenol on the level of glutathione in children suffering from attention deficit hyperactivity disorder (ADHD). *J Interferon Cytokine Res* 2010 Oct 15
- *Dvoráková et al: Urinary catecholamines in children with attention deficit hyperactivity disorder (ADHD): modulation by a polyphenolic extract from pine bark (pycnogenol). *Nutr Neurosci* 2007 Jun-Aug;10(3-4):151-7
- *Rohdewald: A review of the French maritime pine bark extract (Pycnogenol), a herbal medication with a diverse clinical pharmacology. *Int J Clin Pharmacol Ther* 2002 Apr;40(4):158-68
- *Třebatická et al: Treatment of ADHD with French maritime pine bark extract, Pycnogenol. *Eur Child Adolesc Psychiatry* 2006 Sep;15(6):329-35

Vitamins and Minerals DUH HVSHFLDOO\ LPSRUWDQW IRU \$'+ ' NLGV
OF&DUWK\ 0DWWKHZV 7KH\ DFW DV FR IDFWRUUV IRU HQ]\PHV
HLWKHU WKH RWKHU GRHV QRW ZRUN '2 127 XVH JXPPLHV R
as these contain sugars and colours with little nutrient value, and worse yet, often
cause a deterioration in a child's behaviour. Some recommended companies that
IRUPXODWH YLWDPLQV DQG PLQHDOV HVSHFLDOO\ IRU NLGV
LQFOXGH

- *BrainChild Nutritionals - brainchildnutritionals.com/
- *Kirkman Labs - www.kirkmanlabs.com/
- *Metagenics - www.metagenics.com/
- *New Beginnings Nutritionals - www.nbnus.com/
- *Nordic Naturals - www.nordicnaturals.com/

Zinc is an important mineral for producing neurotransmitters and metabolising dopamine and fatty acids.

- *Arnold et al: Does zinc moderate essential fatty acid and amphetamine treatment of ADHD? J Child Adolesc Psychopharmacol 2000;10(2):111-7
- *Bekaroglu et al: Relationships between serum-free fatty acids and zinc, and ADHD: a research note. J Child Psychol Psych 1996 Feb;37(2):225-7
- *Bhagavan et al: The effect of pyridoxine hydrochloride on blood serotonin and pyridoxal phosphate contents in hyperactive children. Pediatrics 1975 Mar;55(3):437-41
- *Bilici et al: Double-blind, placebo-controlled study of zinc sulfate in the treatment of attention deficit hyperactivity disorder. Prog Neuropsychopharmacol Biol Psych 2004 Jan;28(1):181-90
- *Yorbik et al: Potential effects of zinc on information processing in boys with attention deficit hyperactivity disorder. Prog Neuropsychopharmacol Biol Psych 2008 Apr 1;32(3):662-7

FOR NARCOLEPSY

L-Tyrosine LV DQ DPLQR DFLG WKDW DSSHUV WR KHOS ZLWK WK
YLWDPLQV VLQJOH DPLQR DFLGV VKRXOG EH WDNHQ LQ FRPEL
LI DGHTXDWH SURWHLQ LV EHLQJ FRQVXPHG WKHQ DGGLQJ
enzymes high in proteases can increase absorption and related effectiveness.

- *Roufs: L-tyrosine in the treatment of narcolepsy. Med Hypotheses 1990 Dec;33(4):269-73
- *Mouret et al: Treatment of narcolepsy with L-tyrosine. J Ethnopharmacol 2009 Nov 12;126(2):308-13

Low-carbohydrate diet LV VRPHWLPHV HIIHFWLYH EXW XVH ZLVGRP *RRG
include whole grains and fresh fruit and vegetables. Carbohydrates are necessary for
energy so choose whole foods as opposed to processed ones. In other words, do not
FRXQW FDORULHV EXW ORRN DW WKH TXDOLW\ RI WKH IRRG UD

- *Husain et al: Diet therapy for narcolepsy. Neurology 2004 Jun 22;62(12):2300-2

ALCOHOL



DEPLETES :

A, B1, B2, B3, B5, B6, B7, B9, B12, C, D, E, EFAs, choline, calcium, chromium, glutathione/NAC, iron, magnesium, phosphorus, potassium, selenium, zinc, melatonin, good intestinal bacteria

- Alcohol and the body but, here, I am only addressing nutrient losses. Alcohol, even in small amounts and at the very least, affects the liver's ability to produce digestive enzymes thus preventing the absorption of all nutrients. Those as causing Fetal Alcohol Syndrome in a developing fetus.

*Bode: Effect of alcohol consumption on the gut. Best Pract Res Clin Gastroenter 2003 Aug;17(4):575-92

*Dreosti: Nutritional factors underlying the expression of the fetal alcohol syndrome. Ann NY Acad Sci 1993 Mar;678:193-204

*Eckardt et al: Health hazards associated with alcohol consumption. JAMA 1981;246(6):648-66

*Lieber: Relationships between Nutrition, Alcohol Use and Liver Disease. Alcoh Res Health 2003;27

*Lieber: Alcohol: its metabolism and interaction with nutrients. Ann Rev Nutr 2000 July;20:395-430

*Manzo et al: Nutrition and alcohol neurotoxicity. Neurotoxicol 1994;15(3):555-65

- Alcohol, Caffeine and Smoking often go together with the trio decreasing

*Braganza: Pancreatic disease: a casualty of hepatic "detoxification"? Lancet 1983 Oct 29;2(8357):1000-3

*Florack et al: Cigarette smoking, alcohol consumption, and caffeine intake and fecundability. Prevent Med 1994;23(2):175-80

*Kerr et al: Effect of caffeine on the recognition of and responses to hypoglycemia in humans. Ann Intern Med 1993 Oct 15;119(8):799-804

*Tuomilehto et al: Coffee consumption as trigger for insulin dependent diabetes mellitus in childhood. Br Med J 1990;300(6725):642-3

- Alcohol consumption cardiac arrhythmias and pneumonia.

*Lochen & Rasmussen: Palpitations and lifestyle: impact of depression and self-rated health. The Nordland Health Study. Scand J Soc Med 1996;24(2):140-4

*Gyárfás et al: Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries in a case-control study based on the INTERHEART study. Orv Hetil 2006 Apr 16;147(15):675-86

*Shellito et al: Effect of alcohol consumption on host release of interleukin-17 during pulmonary

infection with Klebsiella pneumoniae. Alcohol Clin Exp Res 2001 Jun;25(6):872-81

Fructose, a sugar alternative, can have similar effects as alcohol consumption.

*Lustig: Fructose: metabolic, hedonic, and societal parallels with ethanol. J Am Diet Assoc 2010 Sep;110(9):1307-21

SUGGESTED ALTERNATIVES TO OFFSET ALCOHOL -INDUCED DAMAGE

Alpha lipoic acid LV DSRWHQW DQWL B H G X D H Q W Q M X K U D W W F D V Q H G L tract.

*Sehirli et al: Antioxidant effect of alpha-lipoic acid against ethanol-induced gastric mucosal erosion in rats. Pharmacol 2008;81(2):173-80

Amino acids KDYH DQWL R [L G D Q W D Q G D Q W L L Q A D P P D W R U \ H I I H F W V as well as the liver.

- *Chen et al: Taurine supplementation prevents ethanol-induced decrease in serum adiponectin and reduces hepatic steatosis in rats. J Exp Biol 2009 Jan;212(Pt 2):163-8
- *Kerai et al: Taurine: protective properties against ethanol-induced hepatic steatosis and lipid peroxidation during chronic ethanol consumption in rats. Amino Acids 1998;15(1-2):53-76
- *Liu et al: Beneficial effects of histidine and carnosine on ethanol-induced chronic liver injury. Food Chem Toxicol 2008 May;46(5):1503-9
- *Nanji et al: Arginine reverses ethanol-induced inflammatory and fibrotic changes in liver despite continued ethanol administration. J Pharmacol Exp Ther 2001 Dec;299(3):832-9
- *Senthilkumar & Nalini: Glycine prevents hepatic fibrosis by preventing the accumulation of collagen in rats with alcoholic liver injury. Pol J Pharmacol 2004 Jan-Feb;56(1):121-8
- *Westrick et al: Dietary tryptophan reverses alcohol-induced impairment of facial recognition but not verbal recall. Alcohol Clin Exp Res 1988 Aug;12(4):531-3

Amla is an Ayurvedic herb which helps reduce alcohol-induced brain damage and RYHUDOO WR [L F L W \

- *Reddy et al: Emblica officinalis ameliorates alcohol-induced brain mitochondrial dysfunction in rats. J Med Food 2011 Jan-Feb;14(1-2):62-8
- *Reddy et al: Amelioration of alcohol-induced oxidative stress by Emblica officinalis (amla) in rats: Indian J Biochem Biophys 2010 Feb;47(1):20-5

Apricots and the kernels UHGXFH DOFRKRO LQGXFHG WHVWLFXODU G D P D

- *Abdel-Rahman: Can apricot kernels fatty acids delay the atrophied hepatocytes from progression to fibrosis in dimethylnitrosamine (DMN)-induced liver injury in rats? Lipids Health Dis 2011 Jul 7;10(1):114
- *Kurus et al: Apricot ameliorates alcohol induced testicular damage in rat model. Food Chem Toxicol 2009 Oct;47(10):2666-72

Ashwaganda LV DQ \$ \ X U Y H G L F K H U E N Q R Z Q W R U H G X F H D Q [L H W \ 2 W K D W L Q F O X G H G \$ V K Z D J D Q G K D + R O \ % D V L O * U H H Q W H D 7 U L S D J R R G D O W H U Q D W L Y H W R E H Q] R G L D] H S L Q H V I R U D Q [L H W \ F D X

- *Gupta & Rana: Effect of Withania somnifera Dunal in ethanol-induced anxiety and withdrawal anxiety in rats. Indian J Exp Biol 2008 Jun;46(6):470-5
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B12 and % I R O U H V X F H D O F R K R O L Q G X F H G I H W D O G H Y H O R S P H G S H Q G L [I R U D O L V W R I W K H % Y L W D P L Q V E \ Q X P E H U D Q G Q D P H

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D-Ribose is a monosaccharide made within the body that is necessary for energy

DQG '1\$ DQG 51\$ SURGXFWLRQ RI DOO FHOOV ,W LV SDUWLFX symptoms of heart failure, even that brought on by alcoholism.

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EGCG HSLJDOORFDWHFKLQ JDOODWH LV D SRO\SKHQRO IRXQG L protecting effects.

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LYH EHQHÀWV WR WKH OLYHU

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Ginger LV D ZHOO NQRZQ KHUE XVHG DV D GLJHVWLYH DLG EXW LW ÀEURVLV

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Herbal combination RI 5HG VDJH *LQVHQJ DQG & DPSKRU KHOS SUHYH induced fatty liver.

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Kudzu LV D QR[LRXV ZHHG LQ PDQ\ SODFHV EXW LW LV SURYLVQ EHQHÀWV LQFOXGLQJ WKH UHGXFWRQ RI DOFRKRO FUDYLVQV well as offering some protection for the digestive tract.

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Pomegranates protect the digestive tract from alcohol and aspirin-induced damage
DQG WKH OLYHU IURP ÀEURVLV

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Marjoram oil and Grapeseed extract SURWHFWV DJDLQVW WR[LFLW\

*El-Ashmawy et al: Effects of marjoram volatile oil and grape seed extract on ethanol toxicity in male rats. Basic Clin Pharmacol Toxicol 2007 Nov;101(5):320-7

Milk Thistle LV D ZHOO NQRZQ DQG ORQJ XVHG OLYHU SURWHFWRU

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Naringenin LV D FLWUXV ELRÁDYRQLG WKDW KDV OLYHU SURWHFW

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Oats SUHYHQW OHDN\ JXW FDXVHG E\ OLYHU GDPDJH

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Omega fatty acids KHOS SUHYHQW D IDWW\ OLYHU 2PHJD IDWW\ DFLGV IURP WKH EUDLQ E\ DOFRKROLVP DQG D GHÀFLHQF\ OHDGV WR ZI

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Pomegranates SURWHFW WKH GLJHVWLYH WUDFW IURP DOFRKRO DQO

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Quercetin SURWHFWV WKH EUDLQ UHGXFHV DQ[LHW\ DQG GH withdrawal.

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SAMe 6 DGHQRV\OPHWKLRQLQH LV D VXEVDQFH SURGXFHG LQ VROG DV D VXSSOHPHQW WR LPSURYH PRRG DQG GHSUHVLRQ E including protecting the liver from cancer.

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Zinc GHFUHDVHV WR[LFIHFWV FDXVHG E\DOFRKRO

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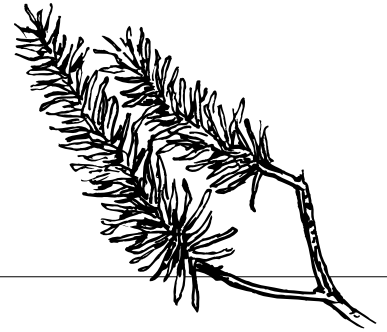
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ALZHEIMER'S DISEASE



COMMON EXAMPLES :

- donepezil – Aricept
- galantamine – 5 H P L Q \ O
- memantine – 1 D P H Q G D
- rivastigmine – ([H O R Q
- tacrine – & R J Q H [

DEplete : C

It is strongly suspected that many more nutrients are depleted but testing has QRW RIÀFLDOO\ FRQÀUPHG WKLV 6WXGLHV KDYH IRXQG V having Alzheimer's disease or dementia are instead VHYHUHO\ GHÀFRIDAQW nutrients. Once these nutrients were replaced, symptoms disappeared or were GUDPDWLFDOO\ UHGXFHG \$ QXPEHU RI QXWUDFHXWLFDOV DV EHLQJ LPSRUWDQW LQ SUHYHQWLQJ Dementia, B12, B6, ZLQJ WKH FDURWHQH +RSV '+ \$ % IRODWH % &DFDR &KURPLX Cinnamon for blood sugar control; Vitamin D; Genistein; Sesame.

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Aspartame LV OLQNHG WR FHUWDLQ PHQWDO GLVRUGHUV FRPS
emotional functioning.

*Humphries et al: Direct and indirect cellular effects of aspartame on the brain. Eur J Clin Nutr 2008
Apr;62(4):451-62

Donepezil and memantine DUH NQRZQ WR FDXVH D ORZHUHG KHDU
LQFUHDVLQJ WKH ULVN RI VHL]XUHV

*Babai et al: Comparison of adverse drug reactions with donepezil versus memantine: analysis of the
French Pharmacovigilance Database. Therapie 2010 May-Jun;65(3):255-9

Drugs WDNHQ IRU \$O]KHLPHU·V GLVHVDVH LQFUHDVH WUHPRU
3DUNLQVRQ·V GLVHVDVH

*No authors listed: Cholinesterase inhibitors: tremor and exacerbation of Parkinson's disease. Prescrire
Int 2007 Oct;16(91):197-8

Fluoride KDV VKRZQ WR VLJQLÀFDQWO\ DIIHFW WKH EUDLQ L
DGXOWV VHH)OXRULGH DQG UDLVHV WKH ULVN RI GHYHOR

*National Research Council (2003-2006): Fluoride in Drinking Water: A Scientific Review of EPA's
Standards

SUGGESTED ALTERNATIVES:

YDOXDEOH EUDLQ SURWHFWRUUV

Açaí fruit LV D SRWHQW DQWLR[LGDQW WKDW SUHYHQWV GDPDJH WR
in the body.

*Kang et al: Anti-oxidant capacities of flavonoid compounds isolated from acai pulp (Euterpe oleracea Mart). Food
Chem 2010 Oct;122(3):610-617

*Mertens-Talcott et al: Pharmacokinetics of anthocyanins and antioxidant effects after the consumption of antho
cyanin-rich acai juice and pulp (Euterpe oleracea Mart) in human healthy volunteers. J Agric Food Chem
2008;56(17):7796-7802

*Oliveira de Souza et al: Diet supplementation with acai (Euterpe oleracea Mart.) pulp improves biomarkers of
oxidative stress and the serum lipid profile in rats. Nutr 2010 July-Aug;26(7-8):804-810

*Schauss et al: Antioxidant capacity and other bioactivities of the freeze-dried Amazonian palm berry, Euterpe
oleracea Mart (Acai). J Agric Food Chem 2006;54(22):8604-8610

*Spada et al: Frozen fruit pulp of Euterpe oleracea Mart (Acai) prevents hydrogen peroxide-induced damage in
the cerebral cortex, cerebellum, and hippocampus of rats. J Med Food 2009 Oct;12(5):1084-1088

Alpha-lipoic acid LV D SRWHQW DQWLR[LGDQW WKDW KDV QHXURSURWH
LQJ LW DQ LGHDO WUHDWPHQW IRU VXFK GLVHVDVH DV \$O]KHLPH

*Hager et al: Alpha-lipoic acid as a new treatment option for Alzheimer's disease – a 48 months follow-
up analysis. J Neural Transm Suppl 2007;(72):189-93

Alpha-lipoic acid, Carnitine, and Vitamin E reduce memory loss. Carnitine is
formed in the body from two amino acids, lysine and methionine. Tocotrienols are
important members of the vitamin E family. A good vitamin E supplement should
consist of 4 tocopherols and 4 tocotrienols in order to obtain optimal neuroprotective
E HQHÀWV

*Ahmed: Modulatory effects of vitamin E, acetyl-l-carnitine and -lipoic acid on new potential bio
markers for Alzheimer's disease in rat model. Exp Toxicol Pathol 2010 Dec 23

- *Khanna et al: Characterization of the potent neuroprotective properties of the natural vitamin E alpha-tocotrienol. Public Health 2010 Jun;124(6):332-8
- *Lu et al: Memory loss in old rats is associated with brain mitochondrial decay and RNA/DNA oxidation: partial reversal by feeding acetyl-L-carnitine and/or R-alpha -lipoic acid. Proc Natl Acad Sci USA 2002 Feb 19;99(4):2356-61
- *Maczurek et al: Lipoic acid as an anti-inflammatory and neuroprotective treatment for Alzheimer's disease. Adv Drug Deliv Rev 2008 Oct-Nov;60(13-14):1463-70

Anthocyanins are $\dot{A}DYRQRLGV IRXQG LQ UHG EOXH RU SXUSOH IR$
 $DQWLR[LGDQWV WKDW DUH DEOH WR FURVV WKH EORRG EUDLQ$
 ing and memory.

- *Andres-Lacueva et al: Anthocyanins in aged blueberry-fed rats are found centrally and may enhance memory. BMB Rep 2010 Jan;43(1):46-51

Antioxidants such as Vitamins A, E, C and Resveratrol as well as many others,
 $SURLGH SURWHFWLRQ DJDLQVW QHXUDO FHOOGHDWK IURP R$

- *Draczynska-Lusiak et al: Oxidized lipoproteins may play a role in neuronal cell death in Alzheimer disease. Mol Chem Neuropathol 1998 Feb;33(2):139-48

Apples prevent the decline in cognitive performance. But do yourself a favour, eat
 only organic fruit as apples are the number one food that contain pesticides which
 $DUH WR[LF HQRXJK WR VHYHUHO\ DIIHFW DQ DOUHDG\ RYHUZK$

- *Apples worst for pesticides on produce list. CBC News, Jun 14, 2011
- *Chan and Shea: Dietary supplementation with apple juice decreases endogenous amyloid-beta levels in murine brain. Int J Mol Med 2010 Oct;26(4):447-55
- *DeNoon: Apples Are Top Food With Most Pesticides: 'Dirty Dozen' List Reveals Fruits/Veggies With Most Pesticides. WebMD Health News June 13, 2011
- *No authors listed: Apple juice concentrate maintains acetylcholine levels following dietary compromise. J Alz Dis. 2006 Aug;9(3):287-91
- *Shabecoff: 100 Chemicals for Apples Add Up to Enigma on Safety. NY Times Feb 5, 1989
- *Tchantchou et al: Apple juice concentrate prevents oxidative damage and impaired maze performance in aged mice. Ann Clin Psychiatry 2009 Jul-Sep;21(3):148-61
- *The Full List: 53 Fruits and Veggies. Environmental Working Group. www.ewg.org/foodnews/list/

Aromatherapy $LQKDODWLRQ RU P$ Essential Oils $XVDYHQGHU 5RPDQ$
 $\&KDPRPLOH <ODQJ <ODQJ FDOP DQG UHOLHYH VOHHS SUREO$
 $PHQWHG \%H DZDUH WKDW ZKDWHYHU LV SXW RQ WKH VNLQ RU$
 it therefore, it is imperative that chemically-laden products be avoided.

- *Moss et al: Modulation of cognitive performance and mood by aromas of peppermint and ylang-ylang. Nutr Cancer 2006;55(1):53-62
- *Wolfe & Joeherzber: Can aromatherapy oils promote sleep in severely demented patients? Intl J Geriat Psych Letters 1996;11:926-7

Ashwaganda is an herb of the nightshade family that possesses adaptogenic and
 $QHXURSURWHFWLYH SURSHUWLHV UHJXODWHV WKH ERG\ ,W L$
 glands which are affected by stress.

- *Tohda et al: Dendrite extension by methanol extract of Ashwagandha (roots of Withania somnifera) in SK-N-SH cells. Neuroreport 2000 Jun 26;11(9):1981-5
- *Tohda: Overcoming several neurodegenerative diseases by traditional medicines: the development of therapeutic medicines and unraveling pathophysiological mechanisms. Yakugaku Zasshi 2008 Aug;128(8):1159-67

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*Yadav et al: Propoxur-induced acetylcholine esterase inhibition and impairment of cognitive function: attenuation by Withania somnifera. *Int Immunopharmacol* 2003 Sep;3(9):1313-24

Astaxanthin LV DQ DQWLR[LGDQW FDURWHQRLG H[WUDFWHGH IURP PD
KDYH VLJQLÀFDQW QHXURSURWHFWLYH HIIHFWV

*Chang et al: Astaxanthine secured apoptotic death of PC12 cells induced by beta-amyloid peptide 25-35: its molecular action targets. *J Med Food* 2010 Jun;13(3):548-56

*Hussein et al: Antihypertensive and neuroprotective effects of astaxanthin in experimental animals. *Biol Pharm Bull* 2005 Jan;28(1):47-52

*Ikeda et al: Protective effects of astaxanthin on 6-hydroxydopamine-induced apoptosis in human neuroblastoma SH-SY5Y cells. *J Neurochem* 2008 Dec;107(6):1730-40

*Lee et al: Astaxanthin protects against MPTP/MPP+-induced mitochondrial dysfunction and ROS production in vivo and in vitro. *Food Chem Toxicol* 2011 Jan;49(1):271-80

*Liu & Osawa: Astaxanthin protects neuronal cells against oxidative damage and is a potent candidate for brain food. *Forum Nutr* 2009;61:129-35

*Lu et al: Astaxanthin inhibits reactive oxygen species-mediated cellular toxicity in dopaminergic SH-SY5Y cells via mitochondria-targeted protective mechanism. *Brain Res* 2009 Feb 13;1254:18-27

*Lu et al: Neuroprotective effect of astaxanthin on H₂O₂-induced neurotoxicity in vitro and on focal cerebral ischemia in vivo. *Brain Res* 2010 Nov 11;1360:40-8

*Wang et al: Astaxanthin upregulates heme oxygenase-1 expression through ERK1/2 pathway and its protective effect against beta-amyloid-induced cytotoxicity in SH-SY5Y cells. *Brain Res* 2010 Nov 11;1360:159-67

B vitamins KHOS LPSURYH FRJQLWLYH DQG QHUYH IXQFWLRQ 6LQFH
LQ WKH IDPLO\ ZKLFK DOO ZRUN WRJHWKHU LW LV LPSRUWDQW
SUHYHQW FDXVLQJ D GHÀFLHQF\ LQ RWKHUV LI RQH LV WDNHQ V
WR WDNH DQ B12 GLXELRLOD\ DOO\ XQGHU WKH WRQJXH WR UHGXI
GHYHORSLQJ D W\SH RI DQHPLD SHUQLFLRXV DQG WR PDNH X
properties. Nicotinamide D IRUP RI QLDEHQWV HV FRJQLWLRQ LQ \$OJK
GLVHDVH VHH \$SSHQGL[IRU WKH OLVW RI % YLWDPLQV E\ QDPH

*Green et al: Nicotinamide restores cognition in Alzheimer's disease transgenic mice via a mechanism involving sirtuin inhibition and selective reduction of Thr231-phosphotau. *J Neurosci* 2008 Nov 5;28(45):11500-10

*Low Vitamin B12 levels may lead to brain shrinkage, cognitive problems. *Ame Acad Neurol* 2011 Sept 26

*Jager et al: Cognitive and clinical outcomes of homocysteine-lowering B-vitamin treatment in mild cognitive impairment: a randomized controlled trial. *Int J Geriatr Psych* 2011 Jul 21

*Selhub et al: B vitamins and the aging brain. *Nutr Rev* 2010 Dec;68 Suppl 2:S112-8

*Singh et al: Beneficial effects of folic acid on enhancement of memory and antioxidant status in aged rat brain. *Cell Mol Neurobio* 2011 Jan;31(1):83-91

*Tangney et al: Vitamin B12, cognition, and brain MRI measures: A cross-sectional examination. *Neuro* 2011;77(13):1276

*Wang et al: Vitamin B12 and folate in relation to the development of Alzheimer's disease. *Neurol* 2001 May 8;56(9):1188-94

B6, 9, and GHÀFLHQF\ contributes to increased levels of homocysteine which is associated with neurological disorders as well as cardiovascular disease and bone IUDFWXUHV 6XSSOHPHQWDWLRQ RI WKHVVH WKUHH % YLWDPLQV prevent or reverse such disorders.

*Ientile et al: Homocysteine, vitamin determinants and neurological diseases. *Front Biosci (Schol Ed)* 2010;2:359-72

*Miller: Homocysteine and Alzheimer's disease. *Nutr Rev* 1999 Apr;57(4):126-9

*Moris: Homocysteine and Alzheimer's disease. *Lancet Neurol* 2003 Jul;2(7):425-8

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- *Smach et al: Folate and homocysteine in the cerebrospinal fluid of patients with Alzheimer's disease or dementia: a case control study. *Eur Neurol* 2011;65(5):270-8
- *Smith et al: Homocysteine-lowering by B vitamins slows the rate of accelerated brain atrophy in mild cognitive impairment: A randomized controlled trial. *PLoS ONE* 2010;5(9):e12244
- *Spence et al: Understanding the complexity of homocysteine lowering with vitamins. *JAMA* 2011;306(23):2610-11
- *Wolters et al: Cobalamin: a critical vitamin in the elderly. *Prev Med* 2004 Dec;39(6):1256-66

Bacopa is an herb often used in Ayurvedic medicine because of its neuroprotective,
 D Q W L R [L G D Q W D Q G E U D L Q H Q K D Q F L Q J H I I H F W V

- *Calabrese et al: Effects of a standardized Bacopa monnieri extract on cognitive performance, anxiety, and depression in the elderly: a randomized, double-blind, placebo-controlled trial. *J Alter Com plem Med* 2008 Jul;14(6):707-13
- *Holcomb et al: Bacopa monniera extract reduces amyloid levels in PSAPP mice. *J Alzh Dis* 2006 Aug;9(3):243-51
- *Jyoti et al: Bacopa monniera prevents from aluminium neurotoxicity in the cerebral cortex of rat brain. *J Ethnopharma* 2007 Apr 20;111(1):56-62
- *Limpeanchob et al: Neuroprotective effect of Bacopa monnieri on beta-amyloid-induced cell death in primary cortical culture. *J Ethnopharma* 2008 Aug 5 [ahead of print]

Bamboo extract is useful in restoring brain cell function.

- *Hong et al: Protective effects of the pyrolyzates derived from bamboo against neuronal damage and hematoaggregation. *J Ethnopharma* 2010 Apr 21;128(3):594-9
- *Jeong et al: Inhibitory effects of Bombusae concretio Salicea on neuronal secretion of Alzheimer's beta-amyloid peptides, a neurodegenerative peptide. *Neurochem Res* 2003 Dec;28(12):1785-92
- *Jeong et al: Effects of Bambusae concretio Salicea (Chunchukhwang) on amyloid beta-induced cell toxicity and antioxidative enzymes in cultured rat neuronal astrocytes. *Indian J Exp Biol* 2006 Sep;44(9):705-18

Berries, Grape juice, Spinach and Walnuts are foods of choice for enriching brain function and reducing the effects of neuro-degenerative diseases such as Alzheimer's.

- *Joseph et al: Grape juice, berries, and walnuts affect brain aging and behavior. *J Ethnopharmacol* 2008 Aug 13;118(3):396-404
- *Joseph et al: Reversals of age-related declines in neuronal signal transduction, cognitive, and motor behavioral deficits with blueberry, spinach, or strawberry dietary supplementation. *J Gastroenter* 2002 Nov;37 Suppl 14:67-72
- *Joseph et al: Grape juice, berries, and walnuts affect brain aging and behavior. *J Ethnopharmacol* 2008 Aug 13;118(3):396-404
- *Shukitt-Hale et al: Blueberry polyphenols attenuate kainic acid-induced decrements in cognition and alter in ammatory gene expression in rat hippocampus. *Nutr Neurosci* 2008 Aug;11(4):172-82
- *Shukitt-Hale et al: Effects of blackberries on motor and cognitive function in aged rats. *Nutr Neurosci* 2009 Jun;12(3):135-40
- *Willis et al: Blueberry supplementation attenuates microglial activation in hippocampal intraocular grafts to aged hosts. *Glia* 2009 Dec 14

Black Pepper FR Q W D L Q V D Q D O N D O R L G W K D W L P S U R Y H V E U D L Q abilities.

- *No authors listed: Piperine, the main alkaloid of Thai black pepper, protects against neurodegeneration and cognitive impairment in animal model of cognitive deficit like condition of Alzheimer's disease. *Food Chem Toxicol* 2009 Dec 23

Buckwheat is a gluten-free non-cereal grain that is related to rhubarb and not to
 Z K H D W , W K D V V H Y H U D O K H D O W K E H Q H A W V L Q F O X G L Q J W K H U

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*Pu et al: Protective effect of buckwheat polyphenols against long-lasting impairment of spatial memory associated with hippocampal neuronal damage in rats subjected to repeated cerebral ischemia. *J Pharmacol Sci* 2004 Apr;94(4):393-402

Carotenoids DUH IRXQG LQ UHG \HOORZ DQG RUDQJH IUXLW DV ZHC
YHJHWDEOHV & DURWHQRLGV VLJQLÀFDQWO\ UHGXFH WKH R[LG
lead to cognitive decline.

*Unno et al: Beta-cryptoxanthin, plentiful in Japanese mandarin orange, prevents age-related cognitive dysfunction and oxidative damage in senescence-accelerated mouse brain. *Biol Pharm Bull* 2011;34(3):311-7

*Vasudevan & Parle: Pharmacological evidence for the potential of *Daucus carota* in the management of cognitive dysfunctions. *Biol Pharm Bull* 2006 Jun;29(6):1154-61

Cherries protect the brain from neuron destruction.

*Kim et al: Sweet and sour cherry phenolics and their protective effects on neuronal cells. *J Agric Food Chem* 2005 Dec 28;53(26):9921-7

Chinese club moss + XSHU]LD VHUUDWD FRQWDLQV D FRPSRQHQW FD
which improves memory and focus and is more effective in raising blood levels of
acetylcholine and dopamine than drugs.

*Liang & Tang: Comparative studies of huperzine A, donepezil, and rivastigmine on brain acetylcholine, dopamine, norepinephrine, and 5-hydroxytryptamine levels in freely-moving rats. *Acta Pharmacol Sin* 2006 Sep;27(9):1127-36

*Shang et al: Improving effects of huperzine A on abnormal lipid peroxidation and superoxide dismutase in aged rats. *Zhongguo Yao Li Xue Bao* 1999 Sep;20(9):824-8

*Tang et al: Effects of huperzine A on secretion of nerve growth factor in cultured rat cortical astrocytes and neurite outgrowth in rat PC12 cells. *Acta Pharmacol Sin* 2005 Jun;26(6):673-8

*Wang et al: Huperzine A attenuates cognitive dysfunction and neuronal degeneration caused by beta-amyloid protein-(1-40) in rat. *Eur J Pharmacol* 2001 Jun 15;421(3):149-56

*Ye et al: Improving effects of huperzine A on spatial working memory in aged monkeys and young adult monkeys with experimental cognitive impairment. *J Pharmacol Exp Ther* 1999 Feb;288(2):814-9

*Zhang et al: Potential therapeutic targets of huperzine A for Alzheimer's disease and vascular dementia. *Biol Pharm Bull* 2004 Nov;27(11):1844-9

*Zhang et al: Non-cholinergic effects of huperzine A: beyond inhibition of acetylcholinesterase. *Cell Mol Neurobiol* 2008 Feb;28(2):173-83

*Zhang & Tang: Huperzine A attenuates the neurotoxic effect of staurosporine in primary rat cortical neurons. *Neurosci Lett* 2003 Apr 10;340(2):91-4

*Liang and Tang: Comparative studies of huperzine A, donepezil, and rivastigmine on brain acetylcholine, dopamine, norepinephrine, and 5-hydroxytryptamine levels in freely-moving rats. *Acta Pharmacol Sin* 2006 Sep;27(9):1127-36

Chinese skullcap 6FXWHOODULD EDLFDQHVLV FRQWDLQV D ÁDYRQRLG FDC
UHGXFHV WKH SURGXFWLRQ RI QLWULF R[LGH DQG LQÁDPPDWRU
destruction.

*Piao et al: Neuroprotective effect of wogonin: potential roles of inflammatory cytokines. *Arch Pharm Res* 2004 Sep;27(9):930-6

Coconut Water and Oil FRQWDLQ 0&7V 0HGLXP &KDLQ 7ULJO\FHU GHV Z
acids vital for the brain and found in virgin coconut and palm oils . One medical
GRFWRU XVHG FRFRQXW RLO WR UHYHUVH KHU KXVEDQG·V\$O]KH

*Fife: *Stop Alzheimer's Now!: How to Prevent & Reverse Dementia, Parkinson's, ALS, Multiple Sclerosis & Other Neurodegenerative Disorders.* Piccadilly Books, 2011

- *Gursche: Medical Doctor Treats Alzheimer's with Coconut Oil. Alpha Health Burnaby, BC handout and online at www.alphahealth.ca/coconutoilandhealth/?p=4
- *Kale University video interview with MD who treated her husband - www.kaleuniversity.org/4655-coconut-oil-turns-alzheimers-disease
- *Newport: Alzheimer's Disease: What If There Was a Cure? Basic Health Publications, 2011
- *Park et al: Poria cocos water extract (PCW) protects PC12 neuronal cells from beta-amyloid-induced cell death through antioxidant and antiapoptotic functions. *Pharmazie* 2009 Nov;64(11):760-4
- *Reger et al: Effects of beta-hydroxybutyrate on cognition in memory-impaired adults. *J Agric Food Chem* 2006 Mar 22;54(6):2123-8

Colostrum LV WKH ÀUVW ´PLONµ SURGXFHG E\ PDPPDOV ZKR KDYH high in nutrients and antibodies needed by the new infant. Colostrum is proving to have neuro-protective effects which may prevent Alzheimer's.

- *Douraghi-Zadeh et al: The protective effects of the nutraceutical, colostrinin, against Alzheimer's disease, is mediated via prevention of apoptosis in human neurones induced by aggregated beta-amyloid. *J Nutr Health Aging* 2009 Jun;13(6):522-7

CoQ10 LV UHTXLUHG E\ HYHU\ FHOOLQWKH ERG\ IRU HQHUJ\ DQWKH KHDUW EXW LW DOVR UHGXFHV SODTXH SURWHFWV QHXUP Alzheimer's patient.

- *Dumont et al: Coenzyme Q10 decreases amyloid pathology and improves behavior in a transgenic mouse model of Alzheimer's Disease. *J Alzheimers Dis* 2011 Jul 28
- *Won et al: Coenzyme Q10 protects neurons against neurotoxicity in hippocampal slice culture. *Neuroreport* 2011 Oct 5;22(14):721-6
- *Yang et al: Coenzyme Q10 reduces beta-amyloid plaque in an APP/PS1 transgenic mouse model of Alzheimer's disease. *J Mol Neurosci* 2010 May;41(1):110-3

CoQ10 and Creatine is a combination proving to be useful in treating neurodegeneration - JHQHUDWLYH GLVHVDHV &UHDWLQH DORQH LPSURYHV PXVFOHDQG WKR VH ZLWK PXVFXODU GLVHVDHV ,W DOVR UHGXFHV PXV for diabetics and those on dialysis.

- *Adhihetty & Beal: Creatine and its potential therapeutic value for targeting cellular energy impairment in neurodegenerative diseases. *Neuromolecular Med* 2008;10(4):275-90
- *Chung et al: Creatine supplements in patients with idiopathic in ammatory myopathies who are clinically weak after conventional pharmacologic treatment: Six-month, double-blind, randomized, placebo-controlled trial. *Arthritis Rheum* 2007 May 15;57(4):694-702
- *Cooke et al: Creatine supplementation enhances muscle force recovery after eccentrically-induced muscle damage in healthy individuals. *J Int Soc Sports Nutr* 2009;6:13
- *Gualano et al: Creatine supplementation does not impair kidney function in type 2 diabetic patients: a randomized, double-blind, placebo-controlled, clinical trial. *Eur J Appl Physiol* 2010 Oct 26
- *Gualano et al: Effects of creatine supplementation on renal function: a randomized, double-blind, placebo-controlled clinical trial. *Eur J Appl Physiol* 2008 May;103(1):33-40
- *Hersch et al: Creatine in Huntington disease is safe, tolerable, bioavailable in brain and reduces serum 8OH2'dG. *Neurol* 2006 Jan 24;66(2):250-2
- *Walter et al: Creatine monohydrate in muscular dystrophies: A double-blind, placebo-controlled clinical study. *Neurol* 2000 May 9;54(9):1848-50
- *Yang et al: Combination therapy with coenzyme Q10 and creatine produces additive neuroprotective effects in models of Parkinson's and Huntington's diseases. *J Neurochem* 2009 Jun;109(5):1427-39

Cruciferous Vegetables FDEEDJH IDPLO\ FRQWDLQV DQ DQWLR[LGDQVXOIRUDSKDQH ZKLFK KDV QXPHURXV KHDOWK EHQHÀWV LQFOX damage. Sulforaphane is particularly high in broccoli sprouts.

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*Park et al: Protection against amyloid beta cytotoxicity by sulforaphane: role of the proteasome. *Obesity* (Silver Spring) 2009 Aug 13

Curcumin is an active compound found in Turmeric. It has numerous healing benefits -
ÅWV LQFOXGLQJ QHXUR SURWHFWLYH HIIHFWV DQG UHGXFLLQJ V
YDOXDEOH LQ WUHDWLQJ VXFK GLVHVDHV DV 3DUNLQVRQ·V DQG

- *Ahmed et al: Curcuminoids enhance memory in an amyloid-infused rat model of Alzheimer's disease. *Neurosci* 2010 Sep 1;169(3):1296-306
- *Bala et al: Neuroprotective and anti-ageing effects of curcumin in aged rat brain regions. *Biogerontol* 2006 Apr;7(2):81-9
- *Begum et al: Curcumin structure-function, bioavailability, and efficacy in models of neuroinflammation and Alzheimer's disease. *J Pharmacol Exp Ther* 2008 Jul;326(1):196-208
- *Frautschy et al: Phenolic anti-inflammatory antioxidant reversal of Abeta-induced cognitive deficits and neuropathology. *Cancer Lett* 2009 Nov 24
- *Ishrat et al: Amelioration of cognitive deficits and neurodegeneration by curcumin in rat model of sporadic dementia of Alzheimer's type (SDAT). *Eur Neuropsychopharma* 2009 Sep;19(9):636-47
- *Jagatha et al: Curcumin treatment alleviates the effects of glutathione depletion in vitro and in vivo: therapeutic implications for Parkinson's disease explained via in silico studies. *Free Radic Biol Med* 2008 Mar 1;44(5):907-17
- *Lee et al: Neuroprotective effect of curcumin is mainly mediated by blockade of microglial cell activation. *Pharmazie* 2007 Dec;62(12):937-42
- *Lin et al: Exposure to metal ions regulates mRNA levels of APP and BACE1 in PC12 cells: blockage by curcumin. *Neurosci Lett* 2008 Aug 8;440(3):344-7
- *Liu et al: The inhibitory effects of different curcuminoids on amyloid protein, β -amyloid precursor protein and β -site amyloid precursor protein cleaving enzyme 1 in swAPP HEK293 cells. *Int Dent J* 1996 Feb;46(1):22-34
- *Mishra & Palanivelu: The effect of curcumin (turmeric) on Alzheimer's disease: An overview. *Mutat Res* 2009 Oct 13
- *Mishra et al: Tetrahydrocurcumin confers protection against amyloid-induced toxicity. *Neuroreport* 2010 Nov 24
- *Ng et al: Curry consumption and cognitive function in the elderly. *Am J Epidemiol* 2006 Nov 1;164(9):898-906
- *Ono et al: Curcumin has potent anti-amyloidogenic effects for Alzheimer's beta-amyloid fibrils in vitro. *J Neurosci Res* 2004 Mar 15;75(6):742-50
- *Pan et al: Curcumin improves learning and memory ability and its neuroprotective mechanism in mice. *Chin Med J (Engl)* 2008 May 5;121(9):832-9
- *Riemer et al: Evaluation of drugs for treatment of prion infections of the central nervous system. *J Gen Virol* 2008 Feb;89(Pt 2):594-7
- *Rinwa et al: Involvement of PPAR-gamma in curcumin-mediated beneficial effects in experimental dementia. *Naunyn Schmiedebergs Arch Pharmacol* 2010 Jun;381(6):529-39
- *Sharma et al: Curcumin counteracts the aluminium-induced ageing-related alterations in oxidative stress, Na⁺, K⁺ ATPase and protein kinase C in adult and old rat brain regions. *Biogerontology* 2009 Aug;10(4):489-502
- *Thomas et al: Grape seed polyphenols and curcumin reduce genomic instability events in a transgenic mouse model for Alzheimer's disease. *Mutat Res* 2009 Feb 10;661(1-2):25-34

EGCG HSLJDOORFDWHFKLQ JDOODWH IURP *UHHQ 7HD LVHD SRW
WKDW KDV SURIRXQG KHDWK EHQHÅWV LQFOXGLQJ LPSU
tive functions.

*Kishido et al: Decline in glutathione peroxidase activity is a reason for brain senescence: consumption of green tea catechin prevents the decline in its activity and protein oxidative damage in ageing mouse brain. *Biogerontol* 2007 Aug;8(4):423-30

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- *Lee et al: Inhibitory effect of green tea extract on beta-amyloid-induced PC12 cell death by inhibition of the activation of NF-kappaB and ERK/p38 MAP kinase pathway through antioxidant mechanisms. *Brain Res Mol Brain Res* 2005 Oct 31;140(1-2):45-54
- *Shimmyo et al: Epigallocatechin-3-gallate and curcumin suppress amyloid beta-induced beta-site APP cleaving enzyme-1 upregulation. *Am J Physiol Heart Circ Physiol* 2005 Aug;289(2):H715-21
- *Unno et al: Daily consumption of green tea catechin delays memory regression in aged mice. *Biogerontol* 2007 Apr;8(2):89-95
- *Unno et al: Daily ingestion of green tea catechins from adulthood suppressed brain dysfunction in aged mice. *Biofact* 2008;34(4):263-71
- *Unno et al: Suppressive effect of green tea catechins on morphologic and functional regression of the brain in aged mice with accelerated senescence (SAMP10). *Exp Gerontol* 2004 Jul;39(7):1027-34
- *Zhang et al: Green tea polyphenol (-)-epigallocatechin-3-gallate enhances the inhibitory effect of huperzine A on acetylcholinesterase by increasing the affinity with serum albumin. *Nutr Neurosci* 2009 Aug;12(4):142-8

Exercise protects the brain from degeneration.

- *McGregor et al: Physical activity and neural correlates of aging: a combined TMS/fMRI study. *Behav Brain Res* 2011 Mar 24

Fruit and Vegetables UHGXFH \$*(V DGYDQFHG JO\FDWLRQ HQG SURGX) various so-called age-related diseases including cardiovascular, cataracts, diabetes, and Alzheimer's and protect against the formation of cancer cells.

- *Pashikanti et al: Rutin metabolites: novel inhibitors of nonoxidative advanced glycation end products. *Free Radic Biol Med* 2009 Dec 4
- *Platt et al: Fruits and vegetables protect against the genotoxicity of heterocyclic aromatic amines activated by human xenobiotic-metabolizing enzymes expressed in immortal mammalian cells. *Mutat Res* 2010 Aug 14
- *Ramful et al: Citrus fruit extracts reduce advanced glycation end products (AGEs)- and H(2)O(2)-induced oxidative stress in human adipocytes. *J Agric Food Chem* 2010 Sep 30

Genistein LV DQ LVRÁDYRQH IRXQG LQ D IZH SODQWV NXGJX ID WKDW FDQ KDYH VXFK EHQHÀWV DV LPSURYLQJ EUDLQ IXQFWL hormone-disrupters. Therefore eating them should be limited to the occasional use. However, fermentation of such foods does rid them of such harmful effects.

- *Bagheri et al: Genistein ameliorates learning and memory deficits in amyloid(1-40) rat model of Alzheimer's disease. *Neurobiol Learn Mem* 2011 Mar;95(3):270-6
- *Ding et al: Genistein and folic acid prevent oxidative injury induced by amyloid peptide. *Basic Clin Pharmacol Toxicol* 2010 Nov 29
- *Ma et al: Genistein as a neuroprotective antioxidant attenuates redox imbalance induced by beta-amyloid peptides 25-35 in PC12 cells. *Int J Dev Neurosci* 2010 Jun;28(4):289-95

Ginkgo biloba LV DQ KHUE ORQJ NQRZQ IRU LWV PHPRU\ HQKDQFLC EHFDXVH LW LQFUHDVHV EORRG ÁRZ WR WKH EUDLQ DQG SURV induced damage.

- *Gong et al: Protective effects of Ginkgo biloba leaf extract on aluminum-induced brain dysfunction in rats. *Life Sci* 2005 May 27;77(2):140-8
- *Shi et al: Ginkgo biloba extract EGb761 protects against aging-associated mitochondrial dysfunction in platelets and hippocampi of SAMP8 mice. *Platelets* 2010;21(5):373-9
- *Yancheva et al: Ginkgo biloba extract EGb 761(R), donepezil or both combined in the treatment of Alzheimer's disease with neuropsychiatric features: a randomised, double-blind, exploratory trial. *Aging Ment Health* 2009 Mar;13(2):183-90

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Ginseng improves short term memory and prevents degeneration of the nervous system.

- *Arushanian et al: Effect of eleutherococcus on short-term memory and visual perception in healthy humans. *Eksp Klin Farmakol* 2003 Sep-Oct;66(5):10-3
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Glucosamine LV RQH RI HLJKW NQRZQ 'HVVHQWLDQμ VXJDUV QHHGHG ERG\ IRU SURSHU IXQFWLRQLQJ LQFOXGLQJ UHSDLU RI QHXURQV

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Gotu kola is native to Asian countries and used for thousands of years for a variety RI GLVRUGHUV ,Q PRGHUQ WLP HV JRWX NROD LV XVHG WR LPS FUHDVH DQ[LHW\

- *Gotu kola: University of Maryland Medical Center website
- *Singh et al: Neuronutrient impact of Ayurvedic Rasayana therapy in brain aging. *Biogeront* 2008 Dec;9(6):369-74
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- *Joseph et al: Grape juice, berries, and walnuts affect brain aging and behavior. *J Ethnopharmacol* 2008 Aug 13;118(3):396-404
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Horny Goat Weed LV DQ KHUE NQRZQ WR LQFUHDVH EORRG ÁRZ DQG builders but it also protects against memory loss.

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Maca D 3HUXYLDQ URRW HQKDQFHV PHPRU\ DQG JLYHV D JHQ ODFD LV RIWHQ XVHG WR EDODQFH KRUPRQHV LQ ERWK PHQ DQ

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Neutraceuticals UHIHU WR IRRG VXEVDQFHV WKDW SURYLGH KHDC
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Noni fruit LPSURYHV EORRG ÁRZ WKHUHE\ LQFUHDVLQJ FRJQLWLY
ÁH[LELOLW\ DQG EDODQFH

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Omega-3 fatty acids ÀVK ÁD[VHHG RLO VDFKD LQFKL VHHGV KDYH C
EHQHÀWV LQFOXGLQJ EUDLQ SURWHFWLQJ TXDOLWLHV

- *van Gelder et al: Fish consumption, n-3 fatty acids, and subsequent 5-y cognitive decline in elderly men: the Zutphen Elderly Study. Am J Clin Nutr 2007 Apr;85(4):1142-7

Organic plant foods, HVSHFLDOO\ WKRVApigenin QWDLQYORLG IRXQG L
SDUVOH\ DUWLFKRNH EDVLO FHOH\luteolin DQG ÁWKRORS.GDIBWQGDL
FHOHU\ WK\PH JUHHQ SHSSHUV DQG FKDPRPLOH WHD DUH S

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- *Shukitt-Hale et al: Plum juice, but not dried plum powder, is effective in mitigating cognitive de cits in aged rats. Nutri 2009 May;25(5):567-73

Pycnogenol LV D SRWHQW DQWLR[LGDQW H[WUDFW IURP SLQH EDU
EHQHÀWV LQFOXGLQJ SURWHFWLQJ FRJQLWLYH IXQFWLRQ

- *Lee et al: Oligomeric proanthocyanidins improve memory and enhance phosphorylation of vascular endothelial growth factor receptor-2 in senescence-accelerated mouse prone/8. Br J Nutr 2010 Feb;103(4):479-89
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Quercetin LV D FLWUXV ELRÁDYRQRLG XVHG PRVW RIWHQ IRU L W V properties but it also improves alcohol-induced deteriorating brain function.

*Singh et al: Reversal of aging and chronic ethanol-induced cognitive dysfunction by quercetin a bio avonoid. *Free Radic Res* 2003 Nov;37(11):1245-52

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Resveratrol LV D SRWHQW DQWLR[LG DQW IRXQG LQ EOXHEHUULHV D LQ ZLQH WKDW KHOSV SUHYHQW \$O]KHLPHU·V DV ZHOO DV RWKH

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*Richard et al: Neuroprotective properties of resveratrol and derivatives. *Ann N Y Acad Sci* 2011 Jan;1215:103-8

Rooibos Tea LV QDWLYH WR 6RXWK \$IULFD DQG ORQJ XVHG DV D UH DGXOWV DQG EDELHV ,W SRVVHVHV DQWLR[LG DQW SURSHUWL from damaging effects of free radicals.

*Inanami et al: The suppression of age-related accumulation of lipid peroxides in rat brain by administration of Rooibos tea (*Aspalathus linearis*). *Neurosci Lett* 1995 Aug 18;196(1-2):85-8

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*Akhondzadeh et al: A 22-week, multicenter, randomized, double-blind controlled trial of *Crocus sativus* in the treatment of mild-to-moderate Alzheimer's disease. *Psychopharmacol (Berl)* 2010 Jan;207(4):637-43

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*Akhondzadeh et al: Salvia of cinalis extract in the treatment of patients with mild to moderate Alzheimer's disease: a double blind, randomized and placebo-controlled trial. J Clin Pharm Ther 2003 Feb;28(1):53-9

*Iuvone et al: The spice sage and its active ingredient rosmarinic acid protect PC12 cells from amyloid-beta peptide-induced neurotoxicity. J Pharmacol Exp Ther 2006 Jun;317(3):1143-9

Skullcap 6 F X W H O O D U L D E L D F D O H Q V L V L V D Q K H U E W K D W L V S U R

*Song et al: Scutellaria avonoid supplementation reverses ageing-related cognitive impairment and neuronal changes in aged rats. Brain Inj 2009 Feb;23(2):146-53

Spirulina L V D E O X H J U H H Q D O J D H G H U L Y H G I U R P D T X D W L F F \ D
S O D W H Q V L V \$ I U L F D \$ V L D 6 R X W K \$ P H U L F D \$ U W K U R V S L U D S
\$ U W K U R V S L U D P D [L P D & H Q W U D O \$ P H U L F D , W K D V O R Q J E H H
E H Q H A W V L Q F O X G L Q J L P S U R Y L Q J P H P R U \ D Q G U H G X F L Q J R [L G
radicals.

*Hwang et al: Spirulina prevents memory dysfunction, reduces oxidative stress damage and augments antioxidant activity in senescence-accelerated mice. J Nutr Sci Vitaminol (Tokyo) 2011;57(2):186-91

6 W - R K Q . V L R U D W Z H O O N Q R Z Q K H U E R I W H Q X V H G I R U G H S U H V V
improve spatial memory as well.

*Tro miuk et al: Activation of CREB by St. John's wort may diminish deleterious effects of aging on spatial memory. AAPS PharmSciTech 2005 Sep 20;6(1):E74-82

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Vinpocetine L V D Q H [W U D F W I U R P W K H S H U L Z L Q N O H S O D Q W W K D W
H I I H F W L Y H W K D Q W K H V W D Q G D U G J L Q N J R E L O R E D I R U L P S U R Y L C

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Vitamins and Minerals increase cognitive abilities and lifespan while decreasing
W K H U L V N D Q G G X U D W L R Q R I L Q I H F W L R Q V

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ANALGESICS/ANTI-INFLAMMATORIES/ NSAIDS/OPIOIDS



(USED TO CONTROL VARIOUS LEVELS OF PAIN, INFLAMMATION, AND FEVERS)

COMMON EXAMPLES:

NSAIDs >QRQ VWHURLGDO DQWL LQÁDPPDWRU\ GUXJV@

acetaminophen – (PÁH[

acetaminophen – Tylenol and others

aspirin VDOLF\ODWHV ² %D\HU \$OND 6HOW]HU \$QDFLQ ' 3HUFGRDQ DQG RWKHUV

celecoxib – &HOHEUH[

diclofenac – 9ROWDUHQ

etodolac – /RGLQH

ÁXUELSURIHQ ² Ansaïd

ibuprofen – \$GYLO 0RWULQ DQG RWKHUV

indomethacin – Indocin

ketoprofen – Orudis

mefenamic acid – 3RQVWDQ

meloxicam – 0RELF 0RELF[

PHVDODPLQH PHVDOD]LQMDFR\$6\$BQQDVD 0HVDVDO 3H 5RZDVD 6DORIDON

naproxen – \$OHYH \$QDSUR[1DSURV\Q

penicillamine – Cuprimine

piroxicam – \$SR 3LUR[LFDP)HOGHQH 1X 3LUR[3LURFDP

sulindac – Clinoril

... and many more

Opioids XVHG WR WUHDW PRGHUDWH WR VHYHUH SDLQ

buprenorphine – %XSUHQH[

butorphanol – Stadol

codeine

fentanyl – 'XUDJHVLF ,QQRYDU DQG RWKHUV

hydrocodone – '\D]LGH 0D[]LGH /RUWDE \$ORU /RUFHW 9LFRGL

hydromorphone – 'LODXGLG

meperidine – 'HPHURO

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methadone – ' R O R S K L Q H
morphine – Astramorph
oxycodone – 2 [\ & R Q W L Q 3 H U F R G D Q
propoxyphene – ' D U Y R Q
... and many more

DEplete :

B1, B2, B3, B5, B7, B9, B12, C, D, E, K, calcium, copper, iron, magnesium, potassium, sodium, zinc and almost all other minerals, melatonin, glutathione/NAC, protein

- ' Acetaminophen is a petroleum by-product derived from coal tar.
 - *Josephy & Mannervik: Acetaminophen: The discovery of the coal tar analgesics. Mol Toxicol 19:562
- ' Fever-reducing drugs X V X D O O \ D Q D O J H V L F V L Q F U H D V H W K H U L V N associated deaths.
 - *Eyers et al: The effect on mortality of antipyretics in the treatment of in uenza infection: systematic review and meta-analysis. J R Soc Med 2010 Oct;103(10):403-11
- ' Food Additives F R Q V L V W R I W K R X V D Q G V D Q G P D Q \ D U H O L Q N H G W F R Q G L W L R Q V D V P L J U D L Q H V D Q G Å E U R P \ D O J L D Z K L F K L P S H O L P L Q D W H G I U R P W K H G L H W 2 I V S H F L D O F R Q F H U Q D U H \$ V 6 S O H Q G D Z K L F K D U H Q R W R U L R X V I R U F D X V L Q J P D Q \ K H D O W
 - *Jacob & Stechschulte: Formaldehyde, aspartame, and migraines: a possible connection. Dermatitis 2008 May-Jun;19(3):E10-1
 - *Patel et al: Popular sweetner sucralose as a migraine trigger. Headache 2006 Sep;46(8):1303-4
 - *Smith et al: Relief of bromyalgia symptoms following discontinuation of dietary excitotoxins. Ann Pharmacother 2001 Jun;35(6):702-6
- ' NSAIDS D Q G W K H L U F K U R Q L F X V H K D Y H E H H Q O L Q N H G W R I U L V N R I E O R R G F D Q F H U U H V W O H V V O H J V \ Q G U R P H H V S H F I D Q W L G H S U H V V D Q W V E O R R G F O R W V F R Q J H V W L Y H K H D U W I D
 - *Farkouh et al: Cardiovascular outcomes in high risk patients with osteoarthritis treated with. Ann Rheum Dis 2007 Jun;66(6):764-70
 - *Gislason et al: Increased mortality and cardiovascular morbidity associated with use of nonsteroidal anti-in ammatory drugs in chronic heart failure. Arch Intern Med 2009 Jan 26;169(2):141-9
 - *Leutgeb & Martus: Regular intake of non-opioid analgesics is associated with an increased risk of restless legs syndrome in patients maintained on antidepressants. Eur J Med Res 2002 Aug 30;7(8):368-78
 - *Walter et al: Long-term use of acetaminophen, aspirin, and other nonsteroidal anti-in ammatory drugs and risk of hematologic malignancies: results from the prospective vitamins and lifestyle (VITAL) study. J Clin Oncol 2011 May 9
- ' Sorbitol is a sugar alcohol alternative that can cause abdominal pain and bloating.
 - *Jain et al: Sorbitol intolerance in adults. Am J Gastroenterol 1985 Sep;80(9):678-81

SUGGESTED ALTERNATIVES:

* There are dozens of other evidence-based alternatives that relieve pain. Some of these include chiropractic treatments, yoga, acupuncture, massage, biofeedback, light therapy and many more but I am only addressing oral supplemental relief.

Alpha-lipoic acid combination with each other, help relieve pain from various causes.

- *Chiechio et al: Acetyl-L-carnitine in neuropathic pain: experimental data. CNS Drugs 2007;21 Suppl 1:31-8; discussion 45-6
*Chiechio et al: L-Acetylcarnitine induces analgesia by selectively up-regulating mGlu2 metabotropic glutamate receptors. Mol Pharmacol 2002 May;61(5):989-96
*Ghelardini et al: Acetyl-L-carnitine induces muscarinic antinociception in mice and rats. Neuropharma 2002 Dec;43(7):1180-7
*Magis et al: A randomized double-blind placebo-controlled trial of thioctic acid in migraine prophylaxis. Headache 2007 Jan;47(1):52-7
*Memeo & Loiero: Thioctic acid and acetyl-L-carnitine in the treatment of sciatic pain caused by a herniated disc: a randomized, double-blind, comparative study. Clin Drug Investig 2008;28(8):495-500
*Ranieri et al: The use of alpha-lipoic acid (ALA), gamma linolenic acid (GLA) and rehabilitation in the treatment of back pain: effect on health-related quality of life. Int J Immunopathol Pharmacol 2009 Jul-Sep;22(3 Suppl):45-50
*Vincent et al: Effects of alpha-lipoic acid supplementation in peripheral arterial disease: a pilot study. Zhongguo Zhen Jiu 2010 Aug;30(8):617-22

Andrographis is an herb often used to improve the immune system but it also has

- *Chandrasekaran et al: Effect of an extract of Andrographis paniculata leaves on inflammatory and allergic mediators in vitro. J Ethnopharmacol 2010 May 27;129(2):203-7

Anthocyanins are found in such fruits as cherries and raspberries and have a

- *Seeram et al: Cyclooxygenase inhibitory and antioxidant cyanidin glycosides in cherries and berries. Phytomed 2001 Sep;8(5):362-9

Arginine is an amino acid used, in this case, for treating interstitial cystitis, a painful urinary bladder condition.

- *Korting et al: A randomized double-blind trial of oral L-arginine for treatment of interstitial cystitis. J Urol 1999 Feb;161(2):558-65

Arnica combination with each other, help relieve pain from various causes.

- *Alfredo et al: Effects of phonophoresis with Arnica montana onto acute inflammatory process in rat skeletal muscles: an experimental study. Ultrasonics 2009 May;49(4-5):466-71
*Baillargeon et al: The effects of Arnica Montana on blood coagulation. Randomized controlled trial. Can Fam Physician 1993 Nov;39:2362-7
*Brinkhaus et al: Homeopathic arnica therapy in patients receiving knee surgery: results of three randomized double-blind trials. Complement Ther Med 2006 Dec;14(4):237-46
*Ekenäs et al: Screening for anti-inflammatory activity of 12 Arnica (Asteraceae) species assessed by inhibition of NF-kappaB and release of human neutrophil elastase. Hum Exp Toxicol 2002 Apr;21(4):223-30

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- *Jäger et al: Phytomedicines prepared from Arnica lowers inhibit the transcription factors AP-1 and NF-kappaB and modulate the activity of MMP1 and MMP13 in human and bovine chondrocytes. *Planta Med* 2009 Oct;75(12):1319-25
- *Jeffrey and Belcher: Use of Arnica to relieve pain after carpal-tunnel release surgery. *Altern Ther Health Med*. 2002 Mar-Apr;8(2):66-8
- *Karow et al: Efficacy of Arnica montana D4 for healing of wounds after Hallux valgus surgery compared to diclofenac. *Curr Med Res Opin* 1998;14(3):127-39
- *Kawakami et al: Inflammatory process modulation by homeopathic Arnica montana 6CH: The role of individual variation. *Evid Based Complement Alternat Med* 2011;2011:917541
- *Knuesel et al: Arnica montana gel in osteoarthritis of the knee: an open, multicenter clinical trial. *Adv Ther* 2002 Sep-Oct;19(5):209-18
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- *Lyss et al: The anti-inflammatory sesquiterpene lactone helenalin inhibits the transcription factor NF-kappaB by directly targeting p65. *J Biol Chem* 1998 Dec 11;273(50):33508-16
- *Macêdo et al: Anti-inflammatory activity of Arnica montana 6CH: preclinical study in animals. *Homeopathy* 2004 Apr;93(2):84-7
- *Merfort: Arnica: new insights on the molecular mode of action of a traditional medicinal plant. *Teratol* 1999 Apr;59(4):252-60
- *Robertson et al: Homeopathic Arnica montana for post-tonsillectomy analgesia: a randomised placebo control trial. *Homeopathy* 2007 Jan;96(1):17-21
- *Seeley et al: Effect of homeopathic Arnica montana on bruising in face-lifts: results of a randomized, double-blind, placebo-controlled clinical trial. *Arch Facial Plast Surg* 2006 Jan-Feb;8(1):54-9
- *Tveiten & Bruslet: Effect of Arnica D30 in marathon runners. Pooled results from two double-blind placebo controlled studies. *Adv Exp Med Biol* 2007;595:379-405
- *Widrig et al: Choosing between NSAID and Arnica for topical treatment of hand osteoarthritis in a randomised, double-blind study. *Rheumatol Int* 2007 Apr;27(6):585-91
- *Wolf et al: Efficacy of Arnica in varicose vein surgery: results of a randomized, double-blind, placebo-controlled pilot study. *Forsch Komplementarmed Klass Naturheilkd* 2003 Oct;10(5):242-7

Aromatherapy Essential oils prove more effective than standard analgesics for

SDLQ DQG UHGXFHG WKH DPRXQW RI RSLRGV QHHGHG JLQJHU
PDU\ 7KH RLOV RI FODU\ VDJD PDUMRUDP FLQQDPRQ JLQJHU
of almond oil proved an effective belly massage treatment for menstrual pain in high school girls.

- *Higley 2010:438-40
- *Ess Sci Pub 2009:456-57
- *Hur et al: Aromatherapy massage on the abdomen for alleviating menstrual pain in high school girls: a preliminary controlled clinical study. *Evid Based Comple Alt Med* 2012;2012:187163
- *Kim et al: Treatment with lavender aromatherapy in the post-anesthesia care unit reduces opioid requirements of morbidly obese patients undergoing laparoscopic adjustable gastric banding. *Obes Surg* 2007 Jul;17(7):920-5
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- *Yip & Tam: An experimental study on the effectiveness of massage with aromatic ginger and orange essential oil for moderate-to-severe knee pain among the elderly in Hong Kong. *Microbes Infect* 2006 May;8(6):1450-4

Avocado and Soybean oils protect against structural changes of osteoarthritis.

I hesitate to recommend soybean oils because, unless a label states that they are

R U J D Q L F D O O \ J U R Z Q P R V W V R \ R L O V D U H G H U L Y H G I - U R P * 0 2
L V P V V R \ E H D Q V

*Boileau et al: Protective effects of total fraction of avocado/soybean unsaponifiables on the structural changes in experimental dog osteoarthritis: inhibition of nitric oxide synthase and matrix metalloproteinase-13. *Arthritis Res Ther* 2009;11(2):R41

*Lippeillo et al: Metabolic effects of avocado/soy unsaponifiables on articular chondrocytes. *Evid Based Compl Alt Med* 2008 Jun;5(2):191-7

*Mauviel et al: Effect of unsaponifiable extracts of avocado and soybean (Piasclédine) on the cella genolytic action of cultures of human rheumatoid synoviocytes and rabbit articular chondrocytes treated with interleukin-1]. *Rev Rhum Mal Osteoartic* 1991 Apr;58(4):241-5

B-complex vitamins are important for healthy nerves and can help alleviate the pain

R I Q H X U R S D W K \ V H H \$ S S H Q G L [I R U D O L V W R I % Y L W D P L Q V D F F

*Jolivalt et al: B vitamins alleviate indices of neuropathic pain in diabetic rats. *Eur J Pharmacol* 2009 Jun 10;612(1-3):41-7

Bach Flower remedies can be used internally to relieve an assortment of conditions including pain.

*Howard: Do Bach flower remedies have a role to play in pain control? A critical analysis investigating therapeutic value beyond the placebo effect, and the potential of Bach flower remedies as a psychological method of pain relief. *Complement Ther Clin Pract* 2007 Aug;13(3):174-83

Bees Wax compounds KHOS SURWHFW DJDLQVW 16\$, ' LQGXFHG JDVWU
L Q W H U Q D O O \ \$ Z D U P E H H V Z D [P D V V D J H F D Q E H V R R W K L Q J W R

*Illnait et al: Effects of D-002, a product isolated from beeswax, on gastric symptoms of patients with osteoarthritis treated with piroxicam: a pilot study. *J Med Food* 2005;8(1):63-8

Boswellia)UDQNLQFHQVH LV D SODQW WKDW KDV EHHQ XVHG I
K H D O L Q J D O O P D Q Q H U R I F R Q G L W L R Q V , W K D V S R W H Q W D Q W
reduce pain including that of Crohn's disease.

*Blain et al: Boswellia frereana (frankincense) suppresses cytokine-induced matrix metalloproteinase expression and production of pro-inflammatory molecules in articular cartilage. *Curr Eye Res* 2006 Feb;31(2):147-53

*Gerhardt et al: Therapy of active Crohn disease with Boswellia serrata extract H 15. *Gastroenterol* 2001 Jan;39(1):11-7

*Gupta et al: Effects of gum resin of Boswellia serrata in patients with chronic colitis. *Plant Med* 2001 Jul;67(5):391-5

*Sengupta et al: A double blind, randomized, placebo controlled study of the efficacy and safety of 5-Loxin for treatment of osteoarthritis of the knee. *Arthritis Res Ther* 2008;10(4):R85

Bromelain LV D SLQHDSOHHQJ\PH WKDW KDV DQWL LQÁDPPDWR
better than any pharmaceutical analgesic for most pain, including migraines.

*Contreras et al: Effect of bromelain on milk yield, milk composition and mammary health in dairy goats. *Trop Anim Health Prod* 2009 Apr;41(4):493-8

*Fitzhugh et al: Bromelain treatment decreases neutrophil migration to sites of inflammation. *Clin Immunol* 2008 Jul;128(1):66-74

*Hale et al: Dietary supplementation with fresh pineapple juice decreases inflammation and colonic neoplasia in IL-10-deficient mice with colitis. *In amm Bowel Dis* 2010 Dec;16(12):2012-21

*Hale et al: Treatment with oral bromelain decreases colonic inflammation in the IL-10-deficient murine model of inflammatory bowel disease. *Clin Immunol* 2005 Aug;116(2):135-42

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- *Hou et al: Cross-linked bromelain inhibits lipopolysaccharide-induced cytokine production involving cellular signaling suppression in rats. *J Agric Food Chem* 2006 Mar 22;54(6):2193-8
- *Huang et al: Bromelain inhibits lipopolysaccharide-induced cytokine production in human THP-1 monocytes via the removal of CD14. *J Huazhong Univ Sci Technolog Med Sci* 2003;23(2):151-3
- *Secor et al: Bromelain treatment reduces CD25 expression on activated CD4+ T cells in vitro. *Int Immunopharmacol* 2009 Mar;9(3):340-6
- *Walker et al: Bromelain reduces mild acute knee pain and improves well-being in a dose-dependent fashion in an open study of otherwise healthy adults. *Phytomed* 2002 Dec;9(8):681-6

Butterbur is an herb that is effective in preventing migraines in children, adolescents, and adults. -

- *Fiebich et al: Petasites hybridus extracts in vitro inhibit COX-2 and PGE2 release by direct interaction with the enzyme and by preventing p42/44 MAP kinase activation in rat primary microglial cells. *Planta Med* 2005 Jan;71(1):12-9
- *Lipton et al: Petasites hybridus root (butterbur) is an effective preventive treatment for migraine. *Ann N Y Acad Sci* 2009 Feb;1155:278-83
- *Lipton et al: Petasites hybridus root (butterbur) is an effective preventive treatment for migraine. *Neurology* 2004 Dec 28;63(12):2240-4
- *Pothmann & Danesch: Migraine prevention in children and adolescents: results of an open study with a special butterbur root extract. *Headache* 2005 Mar;45(3):196-203

Cantaloupe K D V D Q W L R [L G D Q W D Q G D Q W L L Q Á D P P D W R U \ S U R S H U W L H

- *Vouldoukis et al: Antioxidant and anti-inflammatory properties of a Cucumis melo LC. extract rich in superoxide dismutase activity. *J Ethnopharmacol* 2004 p;94(1):67-75

Capsaicin is a substance in hot peppers that is, ironically, a natural pain reliever.

- *Bernstein et al: Topical capsaicin treatment of chronic postherpetic neuralgia. *J Am Acad Dermatol* 1989 Aug;21(2 Pt 1):265-70
- *Watson et al: A randomized vehicle-controlled trial of topical capsaicin in the treatment of postherpetic neuralgia. *Clin Ther* 1993 May-Jun;15(3):510-26

Cat's Claw L V D Q K H U E Z L W K N Q R Z Q S D L Q D Q G L Q Á D P P D W L R Q U H O L H
Maca, & D W · V & O D Z D O V R S U R W H F W V F K R Q G U R L W L Q D Q L P S R U W D Q
health.

- *Allen-Hall et al: Uncaria tomentosa acts as a potent TNF-alpha inhibitor through NF-kappaB. *J Ethnopharmacol* 2009 Dec 6
- *Cisneros et al: An Uncaria tomentosa (cat's claw) extract protects mice against ozone-induced lung inflammation. *J Ethnopharmacol* 2005 Jan 15;96(3):355-64
- *Miller et al: The chondroprotective actions of a natural product are associated with the activation of IGF-1 production by human chondrocytes despite the presence of IL-1beta. *BMC Complement Altern Med* 2006 Apr 7;6:13
- *Mur et al: Randomized double blind trial of an extract from the pentacyclic alkaloid-chemotype of uncaria tomentosa for the treatment of rheumatoid arthritis. *J Rheumatol* 2002 Apr;29(4):678-81
- *Piscoya et al: Efficacy and safety of freeze-dried cat's claw in osteoarthritis of the knee: mechanisms of action of the species Uncaria guianensis. *In amm Res* 2001 Sep;50(9):442-8
- *Rinner et al: Antiproliferative and pro-apoptotic effects of Uncaria tomentosa in human medullary thyroid carcinoma cells. *Anticancer Res* 2009 Nov;29(11):4519-28
- *Sandoval et al: Cat's claw inhibits TNFalpha production and scavenges free radicals: role in cytoprotection. *Plant Foods Hum Nutr* 2010 Sep;65(3):225-32
- *Sandoval-Chacón et al: Anti-inflammatory actions of cat's claw: the role of NF-kappaB. *Aliment Pharmacol Ther* 1998 Dec;12(12):1279-89

Celebrin cream is a formula containing Cetyl myristoleate that helps relieve pain.

*Hesslink et al: Cetylated fatty acids improve knee function in patients with osteoarthritis. *J Rheumatol* 2002 Aug;29(8):1708-12

Cherries WDUW DQG VZHHW DUH QDWXUDO DQWL LQÁDPPDWRU
SRVW H[HUFLVH PXVFOH SDLQ

*Jacob et al: Consumption of cherries lowers plasma urate in healthy women. *J Nutr* 2003 Jun;133(6):1826-9

*Kelley et al: Consumption of Bing sweet cherries lowers circulating concentrations of inflammation markers in healthy men and women. *J Nutr* 2006 Apr;136(4):981-6

*Kuehl et al: Efficacy of tart cherry juice in reducing muscle pain during running: a randomized controlled trial. *J Int Soc Sports Nutr* 2010;7:17

*Tall et al: Tart cherry anthocyanins suppress inflammation-induced pain behavior in rat. *Behav Brain Res* 2004 Aug 12;153(1):181-8

Chinese Skullcap FRQWDLQV FRPSRXQGV WKDW SURYH WR EH MXVW DV
IRU UHOLHYLQJ SDLQ)ODYRFR[LG LV D FRPELQDWLRQ RI EDLF
and catechin, a polyphenol.

*Levy et al: Flavocoxid is as effective as naproxen for managing the signs and symptoms of osteoarthritis of the knee in humans: a short-term randomized, double-blind pilot study. *J Pediatr Gastroenterol Nutr* 1985 Dec;4(6):923-30

Clove spice is as effective as benzocaine as a topical anesthetic.

*Alqareer et al: The effect of clove and benzocaine versus placebo as topical anesthetics. *J Dent* 2006 Nov;34(10):747-50

Coconut UHGXFHV SDLQ IHYHU DQG LQÁDPPDWLRQ

*Alviano et al: Antinociceptive and free radical scavenging activities of *Cocos nucifera* L. (Palmae) husk aqueous extract. *J Ethnopharmacol* 2004 Jun;92(2-3):269-73

*Intahphuak et al: Anti-inflammatory, analgesic, and antipyretic activities of virgin coconut oil. *Pharm Biol* 2010 Feb;48(2):151-7

*Rinaldi et al: Characterization of the antinociceptive and anti-inflammatory activities from *Cocos nucifera* L. (Palmae). *J Ethnopharma* 2009 Apr 21;122(3):541-6

CoQ10 LV D FRHQJ\PH ZLWK DQWL LQÁDPPDWRU\ HIIHFWV WKDW F
ZKLOH D GHÀFLHQF\FDQ FDXVH WKHP 7KH 8ELTXLQRO IRUP K
WKH FKHDSHU XELTXLQRQH

*Hershey et al: Coenzyme Q10 deficiency and response to supplementation in pediatric and adolescent migraine. *Headache* 2007 Jan;47(1):73-80

*Maroz et al: Reactivity of ubiquinone and ubiquinol with superoxide and the hydroperoxyl radical: implications for in vivo antioxidant activity. *Free Radic Biol Med* 2009 Jan 1;46(1):105-9

*Rozen et al: Open label trial of coenzyme Q10 as a migraine preventive. *Cephalalgia* 2002 Mar;22(2):137-41

*Sándor et al: Efficacy of coenzyme Q10 in migraine prophylaxis: a randomized controlled trial. *Neurology* 2005 Feb 22;64(4):713-5

*Schmelzer et al: Functions of coenzyme Q10 in inflammation and gene expression. *Biofactors* 2008;32(1-4):179-83

*Schmelzer et al: Effects of ubiquinol-10 on microRNA-146a expression in vitro and in vivo. *Mediators Inflamm* 2009;2009:415437

*Schmelzer et al: In vitro effects of the reduced form of coenzyme Q(10) on secretion levels of TNF-alpha and chemokines in response to LPS in the human monocytic cell line THP-1. *J Clin Biochem Nutr* 2009 Jan;44(1):62-6

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*Schmelzer et al: The reduced form of coenzyme Q10 mediates distinct effects on cholesterol metabolism at the transcriptional and metabolite level in SAMP1 mice. *IUBMB Life* 2010 Nov 17

Curcumin, Quercetin, Resveratrol, and Phosphatidylcholine are potent anti-inflammatory and more effective than Curcumin alone.

- *Began et al: Inhibition of lipoxygenase 1 by phosphatidylcholine micelles-bound curcumin. *Lipids* 1998 Dec;33(12):1223-8
- *Belcaro et al: Efficacy and safety of Meriva®, a curcumin-phosphatidylcholine complex, during extended administration in osteoarthritis patients. *Altern Med Rev* 2010 Dec;15(4):337-44
- *Csaki et al: Synergistic chondroprotective effects of curcumin and resveratrol in human articular chondrocytes: inhibition of IL-1beta-induced NF-kappaB-mediated inflammation and apoptosis. *Arthritis Res Ther* 2009 Nov 4;11(6):R165
- *Gupta et al: Bioavailability enhancement of curcumin by complexation with phosphatidyl choline. *J Pharm Sci* 2011 May;100(5):1987-95
- *Henrotin et al: Biological actions of curcumin on articular chondrocytes. *Osteoarth Cartil* 2010 Feb;18(2):141-9
- *Jackson et al: The antioxidants curcumin and quercetin inhibit inflammatory processes associated with arthritis. *Inflamm Res* 2006 Apr;55(4):168-75
- *Jancinová et al: Decreased activity of neutrophils in the presence of diferuloylmethane (curcumin) involves protein kinase C inhibition. *Eur J Pharmacol* 2009 Jun 10;612(1-3):161-6
- *Liu et al: Validated LC/MS/MS assay for curcumin and tetrahydrocurcumin in rat plasma and application to pharmacokinetic study of phospholipid complex of curcumin. *J Pharm Biomed Anal* 2006 Feb 24;40(3):720-7
- *Marczylo et al: Comparison of systemic availability of curcumin with that of curcumin formulated with phosphatidylcholine. *Canc Chemother Pharmacol* 2007 Jul;60(2):171-7
- *Shakibaei et al: Suppression of NF-kappaB activation by curcumin leads to inhibition of expression of cyclo-oxygenase-2 and matrix metalloproteinase-9 in human articular chondrocytes: Implications for the treatment of osteoarthritis. *Biochem Pharmacol* 2007 May 1;73(9):1434-45
- *Sharma et al: Effect of insulin and its combination with resveratrol or curcumin in attenuation of diabetic neuropathic pain: participation of nitric oxide and TNF-alpha. *Phytother Res* 2007 Mar;21(3):278-83
- *Tajik et al: Interaction between curcumin and opioid system in the formalin test of rats. *Pak J Biol Sci* 2007 Aug 1;10(15):2583-6
- *Takada et al: Nonsteroidal anti-inflammatory agents differ in their ability to suppress NF-kappaB activation, inhibition of expression of cyclooxygenase-2 and cyclin D1, and abrogation of tumor cell proliferation. *Oncogene* 2004 Dec 9;23(57):9247-58

Dandelion LV D SRWHQW DQWLR[LGDQW ZLWK PDQ\ EHQHÀFLDO SU
LQÁDPPDWRU\ DQG DQDOJHVL 'DQGHOLRQ FRQWDLQV WZR VX
LQÁDPPDWLRQ SURFHVV /XWHROLQ DQG &KLFRULF DFLG

- *Hu & Kitts: Dandelion (*Taraxacum officinale*) root extract suppresses both reactive oxygen species and nitric oxide and prevents lipid oxidation in vitro. *Phytomed* 2005 Aug;12(8):588-97
- *Hu & Kitts: Luteolin and luteolin-7-O-glucoside from dandelion root suppress iNOS and COX-2 in RAW264.7 cells. *Mol Cell Biochem* 2004 Oct;265(1-2):107-13
- *Jeon et al: Anti-inflammatory activity of *Taraxacum officinale*. *Int J Oncol* 2008 May;32(5):1085-90
- *Kim et al: *Taraxacum officinale* inhibits tumor necrosis factor-alpha production from rat astrocytes. *Immunopharmacol Immunotoxicol* 2000 Aug;22(3):519-30
- *Koh et al: Anti-inflammatory effect of *Taraxacum officinale* leaves on lipopolysaccharide-induced inflammatory responses in RAW 264.7 cells. *J Med Food* 2010 Aug;13(4):870-8
- *Park et al: *Taraxacum officinale* Weber extracts inhibit LPS-induced oxidative stress and nitric oxide production via the NF- κ B modulation in RAW 264.7 cells. *J Ethnopharmacol* 2011 Jan 27;133(2):834-42

ANTALGESICS/ANTI-INFLAMMATORIES

*Park et al: Luteolin and chicoric acid synergistically inhibited inflammatory responses via inactivation of PI3K-Akt pathway and impairment of NF- κ B translocation in LPS stimulated RAW 264.7 cells. Eur J Pharmacol 2011 Apr 15

*Schütz et al: Taraxacum - a review on its phytochemical and pharmacological profile. J Ethnopharmacol 2006 Oct 11;107(3):313-23

Devil's Claw, White Willow Bark and Cayenne are potent pain relievers. White
ZLOORZ EDUN ZDV WKH EDVLV IRU PDNLQJ DVSLULQ DW RQH W

*Gagnier et al: Herbal medicine for low back pain. Cochrane Database Syst Rev 2006 Apr 19;(2):CD004504

*Warnock et al: Effectiveness and safety of Devil's Claw tablets in patients with general rheumatic disorders. Phytother Res 2007 Dec;21(12):1228-33

EGCG (SLJDOORFDWHFKLQ JDOODWH LV D VXEVDQFHV IRXQG L
SDLQ RQH RI LWV PDQ\ KHDOWK EHQHÀWV

*Ahmed et al: Down-regulation of myeloid cell leukemia 1 by epigallocatechin-3-gallate sensitizes rheumatoid arthritis synovial fibroblasts to tumor necrosis factor alpha-induced apoptosis. Am J Surg 2010 Jul 7

*Yun et al: Epigallocatechin-3-gallate suppresses TNF-alpha -induced production of MMP-1 and -3 in rheumatoid arthritis synovial fibroblasts. Gastroenter 2007 May;132(5):1925-36

Enzyme therapy can speed pain relief as well as helping the digestion and the im -
PXQH V\ VWHP)RU SDLQ UHOLHI WDNH EHWZHHQ PHDOV

*Chichoke: Enzymes can hasten pain relief. Nutr Sci News 2001 Feb

5-HTP / K\GUR[\WU\SWRSKDQ KHOSV RYHUFRPH FKURQLF KHDG

*Benedittis & Massei: Serotonin precursors in chronic primary headache. A double-blind cross-over study with L-5-hydroxytryptophan vs Placebo. J Neurosurg Sci 1985 Jul-Sep;29(3):239-48

Fermented Whey and Probiotics KDYH DQWL LQÁDPPDWRU\ SURSHUWLHV

*Beaulieu et al: Anti-inflammatory potential of a malleable matrix composed of fermented whey proteins and lactic acid bacteria in an atopic dermatitis model. J In amm (Lond) 2007;4:6

Feverfew ZLWK RU ZLWKRXW White willow bark SV SUHYHQW PLJUDLQHV

*Diener et al: Efficacy and safety of 6.25 mg t.i.d. feverfew CO₂-extract (MIG-99) in migraine prevention--a randomized, double-blind, multicentre, placebo-controlled study. Cephalalgia 2005 Nov;25(11):1031-41

*Jäger et al: Bioassay-guided isolation of apigenin with GABA-benzodiazepine activity from Tanacetum parthenium. Phytother Res 2009 Nov;23(11):1642-4

*Shrivastava et al: Tanacetum parthenium and Salix alba (Mig-RL) combination in migraine prophylaxis: a prospective, open-label study. Clin Drug Investig 2006;26(5):287-96

Flavonoids %LRÁDYRQRLGV DUH SODQW VXEVDQFHV WKDW KDYH
including reducing pain and bleeding after surgery.

*Mlakar and Kosorok: Flavonoids to reduce bleeding and pain after stapled hemorrhoidopexy: a randomized controlled trial. Wien Klin Wochenschr 2005 Aug;117(15-16):558-60

*Rovenský et al: Effects of purified micronized flavonoid fraction (Detralex) on prophylactic treatment of adjuvant arthritis with methotrexate in rats. Isr Med Assoc J 2008 May;10(5):377-80

*Simsek et al: Effects of micronized purified flavonoid fraction (Da on) on pelvic pain in women with laparoscopically diagnosed pelvic congestion syndrome: a randomized crossover trial. Clin Exp Obstet Gynecol 2007;34(2):96-8

*Taskin et al: The effects of da on on pelvic pain in women with Taylor Syndrome. J Am Assoc Gynecol Laparosc 1996 Aug;3(4, Supplement):S49

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Food sensitivities RIWHQ FDXVH SDLQ PLJUDLQHV DEGRPLQDO PXVFO
WULJJHUV LQFOXGH DOFRKRO DUWLÀFLDO VZHHWHQHUV FDIIH
DJHG FKHHVH SLFNOHG IRRGV VKHOOÀVK ZKHDW 06* PRQRVRG
DQG VPRNH IRXQG LQ SURFHVVHG PHDWV

*Sun-Edelstein & Mauskop: Foods and supplements in the management of migraine headaches. *Mol Canc Ther* 2008 Jun;7(6):1708-19

Genistein LV DQ LVRÁDYRQH IRXQG LQ KLJK FRQFHQWUDWLRQV LQ
IDYD EHDQV DQG NXGJX D SHD SODQW FRQVLGHUHG WR EH D QR
*HQLVWHLQ KDV VRRPH DQWL LQÁDPPDWRU\ SURSHUWLHV WKDW K

*Valsecchi et al: Genistein, a natural phytoestrogen from soy, relieves neuropathic pain following chronic constriction sciatic nerve injury in mice: anti-inflammatory and antioxidant activity. *J Neurochem* 2008 Oct;107(1):230-40

GLA JDPPD OLQROHQLF DFLG FDQ KHOS UHOLHYH DUWKULWLF S
RI RPHJD IDWW\ DFLG DQG IRXQG LQ VXFK RLOV DV ERUDJH HY
FXUUDQW VHHG ,W LV DOVR IRXQG LQ VXFK IRRGV DV EOXHEHUU
and watercress.

*Cameron et al: Evidence of effectiveness of herbal medicinal products in the treatment of arthritis. Part 2: Rheumatoid arthritis. *Phytother Res* 2009 Nov 25;23(12):1647-1662

*Gamma-linolenic acid. U Maryland Medical Center online

*Leventha et al: Treatment of rheumatoid arthritis with blackcurrant seed oil. *Br J Rheumatol* 1994 Sep;33(9):847-52

Glucosamine, Chondroitin, and Flavonoids help ease painful conditions.

*Gang & Gao: Therapeutic results of glucosamine hydrochloride for knee degenerative osteoarthritis. *Zhongguo Xiu Fu Chong Jian Wai Ke Za Zhi* 2008 Jan;22(1):29-31

*Theoharides et al: Treatment of refractory interstitial cystitis/painful bladder syndrome with Cysto Protek--an oral multi-agent natural supplement. *J Agric Food Chem* 2008 Sep 24;56(18):8374-8

*Qui et al: A multi-center, randomized, controlled clinical trial of glucosamine hydrochloride/sulfate in the treatment of knee osteoarthritis. *Zhonghua Yi Xue Za Zhi* 2005 Nov 16;85(43):3067-70

Ginger LV QRW RQO\ D JRRG KHUE IRU GLJHVWLRQ EXW -SURYHV VX
ing pain.

*Fouda et al: Evaluation of the effect of hydroalcoholic extract of Zingiber of cinale rhizomes in rat collagen-induced arthritis. *Basic Clin Pharmacol Toxicol* 2009 Mar;104(3):262-71

*Funk et al: Comparative effects of two gingerol-containing Zingiber of cinale extracts on experimental rheumatoid arthritis. *J Nat Prod* 2009 Feb 13

*Ozgoli et al: Comparison of effects of ginger, mefenamic acid, and ibuprofen on pain in women with primary dysmenorrhea. *J Altern Complement Med* 2009 Feb 13

Ginkgo biloba is an herb often used to improve memory because it increases blood
ÁRZ ZKLFK LV OLNHO\ ZK\ LW LV HIIHFWLYH LQ SUHYHQWLQJ VRRP

*D'Andrea et al: Efficacy of Ginkgolide B in the prophylaxis of migraine with aura. *Neurol Sci* 2009 May;30 Suppl 1:S121-4

*Usai et al: An innovative approach for migraine prevention in young age: a preliminary study. *Neurol Sci* 2010 Jun;31 Suppl 1:S181-3

Ginseng has long been used as a general restorative but it is also proving to be a safe alternative for pain.

*Park et al: Effects of AIF on knee osteoarthritis patients: double-blind, randomized placebo-controlled study. *Korean J Physiol Pharmacol* 2009 Feb;13(1):33-7

Green Plantain Banana pulp protects the gastric mucosa from aspirin-induced erosions.

*Lewis et al: A natural flavonoid present in unripe plantain banana pulp (*Musa sapientum* L. var. *paradisica*) protects the gastric mucosa from aspirin-induced erosions. *J Ethnopharmacol* 1999 Jun;65(3):283-8

Guava leaf extract reduces menstrual pain better than ibuprofen.

*Dobova et al: Effect of a *Psidium guajavae* folium extract in the treatment of primary dysmenorrhea: a randomized clinical trial. *Graefes Arch Clin Exp Ophthalmol* 2007 Apr;245(4):588-94

Hawthorn LV DQ KHUE ZLWK PXOWL EHQHÀFLDO HIIHFWV LQFOXGLQ

*Tadić et al: Anti-inflammatory, gastroprotective, free-radical-scavenging, and antimicrobial activities of hawthorn berries ethanol extract. *J Agric Food Chem* 2008 Sep 10;56(17):7700-9

Holy Basil LV DQ KHUE ZHOO NQRZQ IRU LWV PRRG XSOLIWLQJ SU
help sciatic nerve pain as well.

*Muthuraman et al: Ameliorative effects of *Ocimum sanctum* in sciatic nerve transection-induced neuropathy in rats. *J Ethnopharmacol* 2008 Oct 30;120(1):56-62

Homeopathic remedies safely and effectively treat various painful conditions in -
FOXGLQJ ÀEURP\DOJLD DQG PLJUDLQHV \$OWKRXJK DUQLFD LV
relieving pain, there are others that are effective as pain-relievers.

*Bell et al: Improved clinical status in fibromyalgia patients treated with individualized homeopathic remedies versus placebo. *Rheumatology (Oxford)* 2004 May;43(5):577-82

*Bornhöft et al: Effectiveness, safety and cost-effectiveness of homeopathy in general practice - summarized health technology assessment. *Forsch Komplementmed* 2006;13 Suppl 2:19-29

*Haselen & Fisher: A randomized controlled trial comparing topical piroxicam gel with a homeopathic gel in osteoarthritis of the knee. *Rheumatol (Oxford)* 2000 Jul;39(7):714-9

*Jacobs et al: Treatment of acute childhood diarrhea with homeopathic medicine: a randomized clinical trial in Nicaragua. *Pediatrics* 1994 May;93(5):719-25

*Relton et al: Healthcare provided by a homeopath as an adjunct to usual care for fibromyalgia (FMS): results of a pilot Randomised Controlled Trial. *Homeopathy* 2009 Apr;98(2):77-82

*Witt et al: Homeopathic treatment of patients with migraine: a prospective observational study with a 2-year follow-up period. *J Altern Complement Med* 2010 Apr;16(4):347-55

*Witt et al: Homeopathic treatment of patients with chronic low back pain: A prospective observational study with 2 years' follow-up. *HNO* 2007 Apr;55(4):258-63

Honey QRQ SDVWHXULJHG 0DQXND KDV KHDOLQJ DQG DQWL LQ
average "grocery store honey" has no healing properties and very few should even be labelled as "honey".

*Kassim et al: Ellagic acid, phenolic acids, and flavonoids in Malaysian honey extracts demonstrate in vitro anti-inflammatory activity. *Nutr Res* 2010 Sep;30(9):650-9

*Owoyale et al: Effects of honey on inflammation and nitric oxide production in Wistar rats. *Zhong Xi Yi Jie He Xue Bao* 2011 Apr ;9(4):447-52

*Schneider: Tests Show Most Store Honey Isn't Honey: Ultra-Filtering Removes Pollen, Hides Honey Origins. *Food Safety News* 2011 Nov 7

Hops LV D FDOPLQJ KHUE WKDW KDV DQWL LQÁDPPDWRU\ DFW
OLYHU LQÁDPPDWRU DQG ÀEURVLV

*Cleemput et al: Hop bitter acids efficiently block inflammation independent of GRalpha, PPARalpha, or PPARgamma. *Mol Nutr Food Res* 2009 Aug 4

*Dorn et al: Xanthohumol, a chalcone derived from hops, inhibits hepatic inflammation and fibrosis. *Mol Nutr Food Res* 2010 Jan 19

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*Hougee et al: Selective inhibition of COX-2 by a standardized CO2 extract of Humulus lupulus in vitro and its activity in a mouse model of zymosan-induced arthritis. *Biochem Biophys Res Commun* 1996 Jul 16;224(2):358-61

Horehound LV DQ KHUE ORQJ XVHG DV DQ H[SHFWRUDQW IRU OXQJ
KDV RWKHU SURSHUWLHV WKDW SURYH WR EH PRUH SRWHQW WKD

*de Jesus et al: Analysis of the antinociceptive properties of marrubiin isolated from *Marrubium vulgare*. *Phytomed* 2000 Apr;7(2):111-5

Hyaluronic acid is an important substance in the body. It is needed by every tissue to retain water and for lubrication. The vitreous humour of the eye contains high

DPRXQWV RI LW DQG VR GR MRLQWV DQG VNLQ ,Q WKLW VWXG\
WKH SDLQ DQG XULQDU\ IUHTXHQF\ RI LQWHUVLWLWLDQ F\VLWLWL

*Kallestrup et al: Treatment of interstitial cystitis with Cystistat: a hyaluronic acid product. *Scand J Urol Nephrol* 2005;39(2):143-7

Kudzu LV FRQVLGHUHG D QR[LRXV ZHHG LQ PDQ\ SODFHV EXW LW G
including helping relieve the pain of cluster headaches.

*Sewell: Response of cluster headache to kudzu. *Headache* 2009 Jan;49(1):98-105

Lemon KDV VLJQLÀFDQW DQWL LQÁDPPDWRU\ HIIHFWV

*Galati et al: Anti-inflammatory effect of lemon mucilage: in vivo and in vitro studies. *Immunopharmacol Immunotoxicol* 2005;27(4):661-70

Licorice root has long helped relieve the pain of stomach ulcers so it should come

DV QR VXUSULVH WKDW LW KHOSV ZLWK WKH SDLQ RI FDQNHU V

*Martin et al: A controlled trial of a dissolving oral patch concerning glycyrrhiza (licorice) herbal extract for the treatment of aphthous ulcers. *Gen Dent* 2008 Mar-Apr;56(2):206-10; quiz 211-2, 224

*Moghadamnia et al: The efficacy of the bioadhesive patches containing licorice extract in the management of recurrent aphthous stomatitis. *Phytother Res* 2009 Feb;23(2):246-50

Linden and Quercetin DUH HIIHFWLYH LQ WUHDWLQJ DUWKULWLF SDLQ
RIWHQ XVHG IRU LWV VHGDWLYH SURSHUWLHV ZKLOH 4XHUFHWL
QDWXUDO DQWLKLVWDPLQH DQG DQWL LQÁDPPDWRU\

*Quercetin. U Maryland Medical Center online

*Martinez et al: Antinociceptive activity of *Tilia americana* var. *mexicana* in nociceptions and quercetin in the formalin test and in an arthritic pain model in rats. *Neuropharma* 2008 Nov 5

Magnesium, Selenium, Malic acid, and Fish oil help prevent migraines and can

VDIHO\ EH XVHG HYHQ E\ FKLOGUHQ \$ GHÄFLHQF\ LQ PDJH VHLXP
blood vessels that often leads to headaches.

*Cohen: High-dose oral magnesium treatment of chronic, intractable erythromelalgia. *Ann Pharmacother* 2002 Feb;36(2):255-60

*Eisinger et al: Selenium and magnesium status in bromyalgia. *Magnes Res* 1994 Dec;7(3-4):285-8

*Facchinetti et al: Magnesium prophylaxis of menstrual migraine: effects on intracellular magnesium. *Headache* 1991 May;31(5):298-301

*Facchinetti et al: Oral magnesium successfully relieves premenstrual mood changes. *Obstet Gynecol* 1991 Aug;78(2):177-81

*McCarty et al: Magnesium taurate and fish oil for prevention of migraine. *Med Hypotheses* 1996 Dec;47(6):461-6

*Marcus et al: Serum ionized magnesium in post-traumatic headaches. *Maturitas* 2005 June 16;51(2):177-86

- *Russell et al: Treatment of bromyalgia syndrome with Super Malic: a randomized, double blind, placebo controlled, crossover pilot study. J Rheumatol 1995 May;22(5):953-8
- *Shechter et al: Effects of oral magnesium therapy on exercise tolerance, exercise-induced chest pain, and quality of life in patients with coronary artery disease. Am J Cardiol 2003 Mar 1;91(5):517-21
- *Teragawa et al: The preventive effect of magnesium on coronary spasm in patients with vasospastic angina. Clin Cancer Res 2008 Nov 1;14(21):6855-66
- *Wang et al: Oral magnesium oxide prophylaxis of frequent migrainous headache in children: a randomized, double-blind, placebo-controlled trial. Eur J Endocrinol 2009 Apr;160(4):611-7

Maitake mushrooms KDYH DQWL LQÁDPPDWRU\ SURSHUWLHV VLPLODU

- *Zhang et al: Cyclooxygenase inhibitory and antioxidant compounds from the mycelia of the edible mushroom *Grifola frondosa*. Endocr Pract 2002 Nov-Dec;8(6):417-23

Mango KDV DQWL LQÁDPPDWRU\ DQG SRVVLEO\ DQWL FDQFHU HII

- *Garrido-Suárez et al: A *Mangifera indica* L. extract could be used to treat neuropathic pain and implication of mangiferin. Molecules 2010;15(12):9035-45
- *Yoshimi et al: The inhibitory effects of mangiferin, a naturally occurring glucosylxanthone, in bowel carcinogenesis of male F344 rats. Cancer Lett 2001 Feb 26;163(2):163-70

Mangosteen UHGXFHV LQÁDPPDWLRQ E\ LQFUHDVLQJ DQWLR[LGDQW

- *Kondo et al: Bioavailability and antioxidant effects of a xanthone-rich Mangosteen (*Garcinia mangostana*) product in humans. J Agric Food Chem 2009 Oct 14;57(19):8788-92
- *Udani et al: Evaluation of Mangosteen juice blend on biomarkers of inflammation in obese subjects: a pilot, dose finding study. Nutr J 2009 Oct 20;8:48

Melatonin, RIWHQ XVHG WR LQGXFH VOHHS KDV PDQ\ RWKHU KH UHOLHYLQJ KHDGDFKHV DQG UHGXFLLQJ NLGQH\ GDDPJH FDXVH

- *Ilbey et al: Melatonin prevents acetaminophen-induced nephrotoxicity in rats. Int Urol Nephrol 2009;41(3):695-702
- *Peres et al: Potential therapeutic use of melatonin in migraine and other headache disorders. Expert Opin Investig Drugs 2006 Apr;15(4):367-75

Milk Thistle , often used as a liver support, proves superior to drugs in reducing LQÁDPPDWLRQ RI RVWHRDUWKULWL

- *Hussain et al: Anti-inflammatory activity of silymarin in patients with knee osteoarthritis. A comparative study with piroxicam and meloxicam. J Proteomics 2010 Mar 10;73(5):951-64

MSM PHWK\OVXOIRQ\OPHWKQHV LV D VXOIXU FRPSRXQG WKD relieving chronic pain.

- *Kim et al: Efficacy of methylsulfonylmethane (MSM) in osteoarthritis pain of the knee: a pilot clinical trial. Osteoarthritis Cartilage 2006 Mar;14(3):286-94
- *MSM (methylsulfonylmethane). WebMD online

Mullein is an herb that has been used for hundreds of years for bronchitis and heavy FRXJKV EXW LW LV DOVR DQ DQWL LQÁDPPDWRU\ KHOSLQJ WR

- *Tatli et al: Anti-inflammatory and antinociceptive potential of major phenolics from *Verbascum thapsus* L. folium Boiss. Z Naturforsch [C] 2008 Mar-Apr;63(3-4):196-202

Myrtle LV DQ KHUE WKDW PDQDJHV WKH SDLQ DQG LQÁDPPDWLRQ drops of myrtle tincture or essential oil on toothpaste is a viable option.

- *Babaee et al: The efficacy of a paste containing *Myrtus communis* (Myrtle) in the management of recurrent aphthous stomatitis: a randomized controlled trial. Clin Oral Investig 2010 Feb;14(1):65-70

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Natural substances such as Curcumin, ECGC, Green Tea, Milk Thistle, Pomegranate, Quercetin, and Resveratrol help prevent osteo- and rheumatoid arthritis.

*Khalifé & Zafarullah: Molecular targets of natural health products in arthritis. *Arthritis Res Ther* 2011 Feb 3;13(1):102

Nettle is an herb that contains a substance effective in reducing rheumatic pain.

*Klingelhofer et al: Antirheumatic effect of IDS 23, a stinging nettle leaf extract, on in vitro expression of T helper cytokines. *J Rheumatol* 1999 Dec;26(12):2517-22

Neuropathies PD\ EHFDXVHG E\ *OXWHQ VHQVLWLYLW\ or the antibiotic isoniazid

*Bushara: Neurologic presentation of celiac disease. *Gastroenter* 2005 Apr;128(4 Suppl 1):S92-7

*Hadjivassiliou et al: Neuropathy associated with gluten sensitivity. *Free Radic Biol Med* 2010 Mar 15;48(6):831-838

*Hadjivassiliou et al: Sensory ganglionopathy due to gluten sensitivity. *Neurology* 2010 Sep 14;75(11):1003-8

*Steichen et al: Isoniazid induced neuropathy: consider prevention. *Rev Mal Respir* 2006 Apr;23:157-60

Niacin YLWDP LQ % KHOSV SUHYHQW PLJUDLQHV EXW LI H[WUD LV FRPSDQ\ D IXOO % FRPSOH[IRU EHWWHU HIIHFW VLQFH WKH % ID

*Velling et al: Sustained-release niacin for prevention of migraine headache. *Mayo Clin Proc* 2003 Jun;78(6):770-1

Nonifruit LV DV HIIHFWLYH DV DQDOJHVLFV DQG VWHURLGV IRU UHGX

*Basar et al: Analgesic and anti-inflammatory activity of *Morinda citrifolia* L. (Noni) fruit. *Phytother Res* 2010 Jan;24(1):38-42

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*Buia et al: Polysaccharide composition of the fruit juice of *Morinda citrifolia* (Noni). *Phytochem* 2006 June;67(12):1271-75

*Chan-Blanco et al: The noni fruit (*Morinda citrifolia* L.): A review of agricultural research, nutritional and therapeutic properties. *J Food Comp Anal* 2006 Sept-Nov;19(6-7):645-654

*Dixon et al: Ferment this: The transformation of Noni, a traditional polynesian medicine (*Morinda-Citrifolia*, Rubiaceae). *Econ Bot* 53(1):51-68

*Dussossoy et al: Characterization, anti-oxidative and anti-inflammatory effects of Costa Rican noni juice (*Morinda citrifolia* L.). *J Ethnopharmacol* 2010 Sep 19

*McClatchey: From Polynesian healers to health food stores: Changing perspectives of *Morinda citrifolia* (Rubiaceae). *Integ Canc Ther* 2002 June;1(2):110-120

*McKoy et al: Preliminary investigation of the anti-inflammatory properties of an aqueous extract from *Morinda citrifolia* (Noni). *Proc West Pharmacol Soc* 2002 45:76-78

*Nualsanit et al: Damnacanthol-induced inflammation is associated with inhibition of NF- κ B Activity. *Inflamm Allergy Drug Targets* 2011 Nov 1

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*West et al: A double-blind clinical safety study of noni fruit juice. *Pac Health Dialog* 2009 Nov;15(2):21-32

Olive leaf and Oil KDYH DQWL LQÁDPPDWRU\ HIIHFWV VLPLODNI WR 16\$, 'V

*Corona et al: Inhibition of p38/CREB phosphorylation and COX-2 expression by olive oil polyphenols underlies their anti-proliferative effects. *Biochem Biophys Res Commun* 2007 Oct 26;362(3):606-11

*Kaeidi et al: Olive (*Olea europaea* L.) leaf extract attenuates early diabetic neuropathic pain through prevention of high glucose-induced apoptosis: In vitro and in vivo studies. *J Ethnopharma* 2011 Apr 22

- *Lucas et al: Molecular mechanisms of inflammation. Anti-inflammatory benefits of virgin olive oil and the phenolic compound oleocanthal. *Curr Pharm Des* 2011 ;17(8):754-68
- *Süntar et al: Assessment of anti-inflammatory and antinociceptive activities of *Olea europaea* L. *Urol Int* 2006;77(3):269-74

Omega-3 fatty acids DUH NQRZQ DQWL LQÁDPPDWRULHV DQG FDQ E H ÁD[VHHG RLOV DQG VDFKD LQFKL VHHGV

- *Adam et al: Anti-inflammatory effects of a low arachidonic acid diet and fish oil in patients with rheumatoid arthritis. *Rheumatol Int* 2003 Jan;23(1):27-36
- *Follegatti-Romero et al: Supercritical CO2 extraction of omega-3 rich oil from Sacha inchi (*Plukenetia volubilis* L.) seeds. *J Supercrit Fluids* 2009 July;49(3):323-29
- *Fritsch et al: A multicenter study of the effect of dietary supplementation with fish oil omega-3 fatty acids on carprofen dosage in dogs with osteoarthritis. *J Am Vet Med Assoc* 2010 Mar 1;236(5):535-9
- *Galarraga et al: Cod liver oil (n-3 fatty acids) as a non-steroidal anti-inflammatory drug sparing agent in rheumatoid arthritis. *Rheumatol (Oxford)* 2008 May;47(5):665-9
- *Gruenewald et al: Effect of cod liver oil on symptoms of rheumatoid arthritis. *Adv Ther* 2002 Mar-Apr;19(2):101-7
- *Guillén et al: Characterization of sachá inchi (*Plukenetia volubilis* L.) oil by FTIR spectroscopy and 1H NMR. Comparison with linseed oil. *J Am Oil Chem Soc* 80;8:755-62
- *Guesens et al: Long-term effect of omega-3 fatty acid supplementation in active rheumatoid arthritis. A 12-month, double-blind, controlled study. *Arthritis Rheum* 1994 Jun;37(6):824-9
- *Lewis & Sandford: Rotator cuff tendinopathy: is there a role for polyunsaturated Fatty acids and anti oxidants? *J Hand Ther* 2009 Jan-Mar;22(1):49-55; quiz 56
- *Lau et al: Effects of fish oil supplementation on non-steroidal anti-inflammatory drug requirement in patients with mild rheumatoid arthritis--a double-blind placebo controlled study. *Br J Rheumatol* 1993 Nov;32(11):982-9
- *Maroon & Bost: Omega-3 fatty acids (fish oil) as an anti-inflammatory: an alternative to nonsteroidal anti-inflammatory drugs for discogenic pain. *Surg Neurol* 2006 Apr;65(4):326-31
- *Tartibian et al: The effects of ingestion of omega-3 fatty acids on perceived pain and external symptoms of delayed onset muscle soreness in untrained men. *Clin J Sport Med* 2009 Mar;19(2):115-9
- *Zainal et al: Relative efficiencies of omega-3 polyunsaturated fatty acids in reducing expression of key proteins in a model system for studying osteoarthritis. *Osteoarth Cartil* 2009 Jul;17(7):896-905

Orange peel ZKLFK LV IXOO RI ÁDYRQRLGV KDV HIIHFWV VLPLO 16\$, 'V

- *Chen et al: Effect and mechanism of total flavonoids of orange peel on rat adjuvant arthritis. *Zhong guo Zhong Yao Za Zhi* 2010 May;35(10):1298-301
- *Frasca et al: Involvement of inducible nitric oxide synthase and cyclooxygenase-2 in the anti-inflammatory effects of a red orange extract in human chondrocytes. *Nat Prod Res* 2010 Sep;24(15):1469-80

Orchid tree leaf H[WUDFW KDV DQWL LQÁDPPDWRU\ HIIHFWV

- *Zakaria et al: Antinociceptive, anti-inflammatory and antipyretic properties of the aqueous extract of *Bauhinia purpurea* leaves in experimental animals. *Med Princ Pract* 2007;16(6):443-9

Papaya leaves KDYH DQWL LQÁDPPDWRU\ SURSHUWLHV

- *Owoyale et al: Anti-inflammatory activities of ethanolic extract of *Carica papaya* leaves. *In ammopharmacol* 2008 Aug;16(4):168-73

3DVVLRQ ÁRZHU LQKLELWV LQÁDPPDWLRQ

- *Vargas et al: Passi ora alata and Passi ora edulis spray-dried aqueous extracts inhibit inflammation in mouse model of pleurisy. *Fitoterapia* 2007 Feb;78(2):112-9

Pomegranates SURWHFW WKH GLJHVWLYH WUDFW IURP LQÁDPPDWL DVSLULQ DQG WKH FKRQGURLWLQ MRLQW FRQWHQW LQ WKRVH

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- *Ajaikumar et al: The inhibition of gastric mucosal injury by Punicagranatum L. (pomegranate) methanolic extract. *J Ethnopharmacol* 2005 Jan 4;96(1-2):171-6
- *Boussetta et al: Punicic acid a conjugated linolenic acid inhibits TNFalpha-induced neutrophil hyperactivation and protects from experimental colon inflammation in rats. *PLoS One* 2009 Jul 31;4(7):e6458
- *Hadipour-Jahromy & Mozaffari-Kermani: Chondroprotective effects of pomegranate juice on monoiodoacetate-induced osteoarthritis of the knee joint of mice. *Phytother Res* 2009 Jun 5

Pomegranates and Gotu kola LPSURYH V\PSWRPV RI SHULRGRQWLWLV LQ DQG RU LQIHFWRQ RI MDZ OLJDPHQWV DQG ERQHV

- *Sastravaha et al: Adjunctive periodontal treatment with *Centella asiatica* and *Punica granatum*-extracts in supportive periodontal therapy. *J Int Acad Periodontol* 2005 Jul;7(3):70-9

Probiotics UHOLHYH DEGRPLQDO SDLQ DQG EORDWLQJ LQ ,%6 ZRUN IRU GLYHUWLFXOLWLV UHGXFH FRPSOLFDWLRQV LQ 6,56 6\VV V\QGURPH DQG UHOLHYH V\PSWRPV RI DUWKULWLV

- *Hun: *Bacillus coagulans* significantly improved abdominal pain and bloating in patients with IBS. *Postgrad Med* 2009 Mar;121(2):119-24
- *Mandel et al: *Bacillus coagulans*: a viable adjunct therapy for relieving symptoms of rheumatoid arthritis according to a randomized, controlled trial. *BMC Complement Altern Med* 2010 Jan 12;10(1):1
- *Shimizu et al: Synbiotics decrease the incidence of septic complications in patients with severe SIRS: a preliminary report. *Dig Dis Sci.* 2009 May;54(5):1071-8
- *Tursi et al: Mesalazine and/or *Lactobacillus casei* in maintaining long-term remission of symptomatic uncomplicated diverticular disease of the colon. *Hepatogastroenterol* 2008 May-Jun;55(84):916-20

Purple Passionfruit peel reduces pain and stiffness in osteoarthritis.

- *Farid et al: Oral intake of purple passion fruit peel extract reduces pain and stiffness and improves physical function in adult patients with knee osteoarthritis. *Nutr Res* 2010 Sep;30(9):601-6

Pycnogenol DORQH RU ZLWK FHUWED@Q KHLQSDP ISQWYHQW YDULRXV W SDLQ LQFOXGLQJ PLJUDLQHV 3\FQRJHQRO LV D SRZHUIXO DQWL EDUN

- *Chayasirisobhon: Use of a pine bark extract and antioxidant vitamin combination product as therapy for migraine in patients refractory to pharmacologic medication. *Headache* 2006 May;46(5):788-93
- *Cisár et al: Effect of pine bark extract (Pycnogenol) on symptoms of knee osteoarthritis. *Phytother Res* 2008 Aug;22(8):1087-92
- *Suzuki et al: French maritime pine bark extract significantly lowers the requirement for analgesic medication in dysmenorrhea: a multicenter, randomized, double-blind, placebo-controlled study. *Prev Med* 2009 Aug-Sep;49(2-3):184-9
- *Vinciguerra et al: Cramps and muscular pain: prevention with pycnogenol in normal subjects, venous patients, athletes, claudicants and in diabetic microangiopathy. *Cancer Lett* 2007 Jun 18;251(1):43-52

Red Oranges QDYHOV YDOHQFLDV %ORRG KDYH WKH VDPH RUDQJH outside but inside, they are a deep red to maroon colour. These red oranges have DQWL LQADPPDWRU\ SURSHUWLHV ZKLFK DOVR SURWHFW WKH F particularly important in those with arthritis.

- *Frasca et al: Involvement of inducible nitric oxide synthase and cyclooxygenase-2 in the anti-inflammatory effects of a red orange extract in human chondrocytes. *Nat Prod Res* 2010 Sep;24(15):1469-80

Reishi mushrooms DUH NQRZQ LPPXQH ERRVWHUV EXW WKH\ DUH OVR H ing the pain of herpes and neuralgia.

ANALGESICS/A NTI-INFLAMMATORIES

*Hijikata et al: Effect of an herbal formula containing Ganoderma lucidum on reduction of herpes zoster pain: a pilot clinical trial. Am J Chin Med 2005;33(4):517-23

*Hijikata and Yamada: Effect of Ganoderma lucidum on postherpetic neuralgia. J Nutr 2006 Mar;136(3 Suppl):816S-820S

Resveratrol LV D SRWHQW DQWLR[LGDQW ZLWK DQDOJHVLF HIIHFW EOXHEHUULHV DQG JUDSHV EXW QRW PXFk LQ ZLQH GHVSLWH

*Falchi et al: Central antalgic activity of resveratrol. Arch Ital Biol 2010 Dec;148(4):389-96

*Hsia et al: Effects of resveratrol, a grape polyphenol, on uterine contraction and Ca²⁺ mobilization in rats in vivo and in vitro. Mutat Res 1993 Nov;303(3):109-12

*Remsberg et al: Pharmacometrics of pterostilbene: preclinical pharmacokinetics and metabolism, anti cancer, antiin ammatory, antioxidant and analgesic activity. Phytother Res 2008 Feb;22(2):169-79

*Sharma et al: Effect of insulin and its combination with resveratrol or curcumin in attenuation of diabetic neuropathic pain: participation of nitric oxide and TNF-alpha. Phytother Res 2007 Mar;21(3):278-83

5LERÁDYŸQ WDP KØO%V SUHYHQW PLJUDLQHV EXW WDNH LW ZL VLQFH WKH\ DOO ZRUN WRJHWKHU IRU EHWWHU HIIHFW DQG O WDNHQ VHSDUDWHO\

*Schoenen et al: Effectiveness of high-dose ribo avin in migraine prophylaxis. A randomized controlled trial. Neurology 1998 Feb;50(2):466-70

Rose Hips KDYH D KLJK YLWDPLQ & FRQWHQW EXW WKH\ DUH EHFV VXSSOHPHQWDO IRUP 9LWDPLQ & LV D NQRZQ DQWLR[LGDQW being effective in relieving pain.

*Chrubasik et al: A one-year survey on the use of a powder from Rosa canina lito in acute exacerbations of chronic pain. Phytother Res 2008 Sep;22(9):1141-8

6 W - R K Q · V : R U W proves twice as effective as ibuprofen in relieving pain.

*Bukhari et al: Antinociceptive activity of methanolic extracts of St. John's Wort (Hypericum perfora tum) preparation. Pak J Pharm Sci 2004 Jul;17(2):13-9

Saffron, Celery seed, and Anise seed prove more effective than mefenamic acid for menstrual pain.

*Nahid et al: The effect of an Iranian herbal drug on primary dysmenorrhea: a clinical controlled trial. J Midwifery Womens Health 2009 Sep-Oct;54(5):401-4

SAMe 6 DGHQRV\OPHWKLRQLQH LV SURYLQJ HIIHFWLYH LQ UHC disorders and arthritis.

*Bottiglieri et al: The clinical potential of ademetionine (S-adenosylmethionine) in neurological disorders. Drugs 1994 Aug;48(2):137-52

*Jacobsen et al: Oral S-adenosylmethionine in primary bromyalgia. Double-blind clinical evaluation. Scand J Rheumatol 1991;20(4):294-302

*König: A long-term (two years) clinical trial with S-adenosylmethionine for the treatment of osteoarthritis. Am J Med 1987 Nov 20;83(5A):89-94

*Maccagno et al: Double-blind controlled clinical trial of oral S-adenosylmethionine versus piroxicam in knee osteoarthritis. Am J Med 1987 Nov 20;83(5A):72-7

*Padova: S-adenosylmethionine in the treatment of osteoarthritis. Review of the clinical studies. Am J Med 1987 Nov;83(5A):60-5

Savory LV DQ KHUE WKDW DSSHUV WR EH HIIHFWLYH LQ UHOLHYL

*Uslu et al: Effects of aqueous extracts of Satureja hortensis L. on rhinosinusitis treatment in rabbit. J Ethnopharma 2002 Oct;82(2-3):83-7

Serrapeptase LV DQ HQJ\PH WKDW UHOLHYHV SDLQ DQG LQÁDPPDWL WDNHQ RQ DQ HPSW\ VWRPDFK IRU JUHDWHVW HIIHFW

- *Al-Khateeb & Nusair: Effect of the proteolytic enzyme serrapeptase on swelling, pain and trismus after surgical extraction of mandibular third molars. *Int J Oral Maxillofacial Sur* 2008, Mar;37(3):264-268
- *Chopra et al: A randomized, double-blind, placebo-controlled study comparing the efficacy and safety of paracetamol, serratiopeptidase, ibuprofen and betamethasone using the dental impaction pain model. *Int J Oral Maxillofacial Sur* 2009, Apr;38(4):350-55
- *Esch et al: Objective measurement of swelling of the upper ankle joint in treatment with serrapeptase—a prospective study. *Fortschritte der Medizin* 1989;107(4):67-8, 71-2 [English Abstract (language)]
- *Panagariya et al: A preliminary trial of serratiopeptidase in patients with carpal tunnel syndrome. *J Assoc Physicians India* 1999 Dec;47(12):1170-2

Sesame oil KDV DQWL LQÁDPPDWRU\ HIIHFWV

- *Chopra et al: Sesamol suppresses neuro-inflammatory cascade in experimental model of diabetic neuropathy. *J Pain* 2010 Oct;11(10):950-7

Shiitake mushrooms SURWHFW WKH OLYHU DJDLQVW DFHWDPLQRSKHQ GD White button mushrooms reduce the incidences and severity of collagen-induced DUWKULWLWV ,PPXQLW\ DXWRLPPXQLW\ WR FROODJHQ W\SH ,, rather than cure it.

- *Chandra et al: White button and shiitake mushrooms reduce the incidence and severity of collagen-induced arthritis in dilute brown non-agouti mice. *J Nutr* 2011 Jan;141(1):131-6
- *Sasidharan et al: In vitro antioxidant activity and hepatoprotective effects of Lentinula edodes against paracetamol-induced hepatotoxicity. *Molecules* 2010 Jun;15(6):4478-89

Tart Cherries VXSSUHV LQÁDPPDWRU\ DQG SDLQ DV HIIHF-WLYHO\ DV YHQW PXVFOH GDPDJH DQG LPSURYH UHFRYHU\ DIWHU H[HUFLVH

- *Connolly et al: Efficacy of a tart cherry juice blend in preventing the symptoms of muscle damage. *J Nat Prod* 2003 Feb;66(2):263-8
- *Ducharme et al: Effect of a tart cherry juice blend on exercise-induced muscle damage in horses. *Am J Vet Res* 2009 Jun;70(6):758-63
- *Howatson et al: Influence of tart cherry juice on indices of recovery following marathon running. *Scand J Med Sci Sports* 2010 Dec;20(6):843-52
- *Seeram et al: Cyclooxygenase inhibitory and antioxidant cyanidin glycosides in cherries and berries. *Phytomed* 2001 Sep;8(5):362-9
- *Tall et al: Tart cherry anthocyanins suppress inflammation-induced pain behavior in rat. *Indian J Med Res* 2005 Dec;122(6):540-6
- *Tall et al: Tart cherry anthocyanins suppress inflammation-induced pain behavior in rat. *Behav Brain Res* 2004 Aug 12;153(1):181-8
- *Traustadóttir et al: Tart cherry juice decreases oxidative stress in healthy older men and women. *J Nutr* 2009 Oct;139(10):1896-900

Tribulus is an herb comparable to indomethacin for relieving pain.

- *Heidari et al: The analgesic effect of Tribulus terrestris extract and comparison of gastric ulcerogenicity of the extract with indomethacin in animal experiments. *Int J Dev Neurosci* 2010 Jun;28(4):289-95

Ursolic acid IRXQG LQ PDQ\ EHUULHV DQG KHUEV LV FRPSDUU\ EOH W ing pain but without the stomach upsets.

- *Kang et al: The anti-arthritis effect of ursolic acid on zymosan-induced acute inflammation and adjuvant-induced chronic arthritis models. *J Pharm Pharmacol* 2008 Oct;60(10):1347-54

Various Natural Health Products K DYH D QWL L QÁD PPDWRU\ H I I H F W V R Q D Q X P E H
U L W L F G L V R U G H U V 7 K R V H W H V W H G L Q F O X G H (* & * 5 H V Y H U D W U R O

*Khalifé & Zafarullah: Molecular targets of natural health products in arthritis. Arthritis Res Ther 2011
Feb 3;13(1):102

Vitamin D3 G H À F L H Q E a n c a u s e M y a l g i a s S H U V L V W H Q W P X V F O H S D L Q 2
I R X Q G W K D W D V L Q J O H P H J D G R V H R I Y L W D P L Q ' L P S U R Y H G P
U H O D W H G G L V R U G H U V L Q Z R P H Q ' R V D J H V D U H R I W H Q O L P L W H Q
even this is rarely enough to meet the minimum most people need.

- *Badsha et al: Myalgias or non-specific muscle pain in Arab or Indo-Pakistani patients may indicate vitamin D deficiency. Clin Rheumatol 2009 Aug;28(8):971-3
- *Bertone-Johnson & Manson: Vitamin D for Menstrual and Pain-Related Disorders in Women. Arch Intern Med 2012;172(4):367-69
- *Plotnikoff and Quigley: Prevalence of severe hypovitaminosis D in patients with persistent, nonspecific musculoskeletal pain. Mayo Clin Proc 2003 Dec;78(12):1463-70
- *Waltman et al: Vitamin D deficiency and musculoskeletal symptoms in breast cancer survivors on aromatase inhibitor therapy. Cancer Nurs. 2009 Mar-Apr;32(2):143-50

Vitamin E, Fish oil, and Nettle combination decreases the need for analgesics.

*Jacquet et al: Phytalgic, a food supplement, vs placebo in patients with osteoarthritis of the knee or hip: a randomised double-blind placebo-controlled clinical trial. Arthritis Res Ther 2009 Dec 16;11(6):R192

Water L V D Q L P S R U W D Q W S D U W R I S D L Q U H O L H I W K D W L V R I W H Q
R I W H Q U H O L H Y H V S D L Q % D W P D Q J K H O L G M

White button mushrooms K DYH D QWL L QÁD PPDWRU\ H I I H F W V

*Yu et al: The effects of whole mushrooms during inflammation. BMC Immunol 2009;10:12

Wobenzym L V D Q H Q] \ P H F R P E L Q D W L R Q W K D W D O V R L Q F O X G H V
, W L V S U R Y L Q J H I I H F W L Y H D V D Q D Q W L L Q Á D P P D W R U \ D Q G D
formation.

- *Lanchava et al: Wobenzym in treatment of recurrent obstructive bronchitis in children. Georg Med News 2005 Oct;(127):50-3
- *Minaev et al: Polyenzymatic therapy in prevention of adhesive processes in the abdominal cavity in children. Vestn Khir Im I I Grek 2006;165(1):49-54
- *Mukhin: Antioxidant effect of wobenzym applied for patients with chronic glomerulonephritis. Lik Sprava 2007 Jan-Mar;(1-2):58-61
- *Riabokon et al: The effect of Wobenzym on the atherogenic potential and inflammatory factors at the rehabilitation stage for patients who have had a myocardial infarct. Lik Sprava 2000 Jul-Aug;(5):111-4
- *Tilscher et al: Results of a double-blind, randomized comparative study of Wobenzym-placebo in patients with cervical syndrome. Wien Med Wochenschr 1996;146(5):91-5

Yacon L V D W X E H U J U R Z Q L Q W K H \$ Q G H V P R X Q W D L Q U H J L R Q V W
D Q G - H U X V D O H P D U W L F K R N H , W L V V K R Z L Q J V L J Q L Á F D Q W D Q
D Q W L L Q Á D P P D W R U \ D F W L Y L W \ Z K L O H K H O S L Q J W R E X L O G E R Q

- *Hong et al: Melampolides from the Leaves of Smallanthus sonchifolius and their inhibitory activity of Ips-induced nitric oxide production. Chem Pharmaceut Bull 2008;56(2):199
- *Melampolides from the leaves of Smallanthus sonchifolius and their inhibitory activity of Ips-induced nitric oxide production. Chem Pharm Bull (Tokyo) 2008 Feb;56(2):199-202
- *Ragusa et al: A bioactive diterpene from Smallanthus sonchifolius. Nat Prod Commun 2008;3(10):1663-66



ANTIBIOTICS

(USED TO TREAT bacterial INFECTIONS , INCLUDING LEPROSY AND TUBERCULOSIS)

COMMON EXAMPLES :

aminoglycosides -mycin , -micin

JHQWDFLFLQ ² &LGRP\FLQ *DUDP\FLQ DQG RWKHUV
QHRP\FLQ ² 0\FLIUDGLQ 1HR)UDGLQ 1HR 7DEV
streptomycin
... and others

anti-tuberculars

HWKDPEXWRO ² 0\DPEXWRO
LVRQLD]LG ² ,1+ DQG RWKHUV
pyrazinamide – Tebrazid and others
ULIDPSLQ ² 5LIDGLQ DQG RWKHUV

cephalosporins ÀYH JHQHUDWLRQV DQG FRXQWLQJ

chlorhexidine – 2UR &OHQVH 3HULGH[DQG RWKHUV

dapsone – '6 \$F]RQH \$YORVXOIRQ 'DSVRQH

ÁXRURTXLQRORQHV

FLSURÁR[DFLQ ² &LSUR &LOR[DP DQG RWKHUV
OHYRÁR[DFLQ ² ,TXL[/HYDTXLQ 4XL[LQ
RÁR[DFLQ ²)OR[LQ 2FXÁR[
... and others

furazolidine –)XUR[RQ

linezolid – =\YR[

loracarbef – /RUDELG

macrolides

D]LWKURP\FLQ ² =LWKURPD[DQG RWKHUV
FODULWKURP\FLQ ² %LD[LQ
HU\WKURP\FLQ ² \$SR (U\WKUR 'LRP\FLQ (0\FLQ (U\ELG
... and others

metronidazole – \$SR 0HWURQLGD]ROH)ODJ\O 0HWUR 1LGDJHO DQ

nitrofurantoin ²)XUDGDQWLQ 0DFURELG 0DFURGDQWLQ WUR

penicillins – DPR[LFLOOLQ DSPSLFLOOLQ SHQLFLOOLQ DQGRWKHU

streptogramins IRU 956\$

sulfonamides VXOID GUXJV
 VXOIDVDOD]LQH ² \$]XOÀGLQH DQG RWKHUV XVHG LQ &URK
 VXOIDPHWKR[D]ROH ² 6HSWUD *DQWDQRO DQG RWKHUV
 tetracyclines RU DQ\ RI WKH PDQ\ cyclines
 trimethoprim ² 3URORSULP
 ... and many more...

DEplete :

A, beta carotene, B1, B2, B3, B5, B6, B7, B8, B9, B12, C, D, E, K,
 PABA, glutathione/NAC, choline, calcium, copper, iron, magnesium,
 potassium, selenium, sodium, zinc, carnitine, good intestinal bacteria,
 CoQ10

- ‘ Antibiotics have no effect on viruses so they should not be used for such
 LQIHFWRQV DV FROGV ÁX RU PRVW XSSHU UHVSLUDWRU
 no effect RQ VLQXV LQIHFWRQV VLQFH WKH PDMRULW\ RI WK
 *Braglia: Research: Antibiotics Will Not Help Your Sinuses. GreenMedInfo newsletter 2012 Feb 21
 *Garbutt et al: Amoxicillin for acute rhinosinusitis: a randomized controlled trial. JAMA 2012 Feb
 15;307(7):685-92
 *Nyquist et al: Antibiotic prescribing for children with colds, upper respiratory tract infections, and
 bronchitis. JAMA 1998 Mar 18;279(11):875-7
- ‘ Antibiotics OLWHUOO\ PHDQ ´DJDLQVW OLIHµ 7KH\ NLOO EDFWHUL
 causing an infection and the good that is needed for the immune and digestive
 V\ VWHPV 7KHUHIRUH WDNLQJ D 352 ELRWLF ´IRU OLIHµ
 LPPXQH V\ VWHP VR WKDW LW FDQ QDWXUOO\ ÀJKW RII L
 NLQG VHH PRUH RQ 3URELRWLFV EHZ
- ‘ Antibiotics promote obesity, especially in children.
 *Mercola: This Commonly Used Drug Found to Promote Obesity. Nov 24, 2011
- ‘ Drug-resistant infections are causing grave concern and for good reason.
 7KH PDLQ FDXVH LV RYHU XVH RI DQWLELRWLFV ZKLFK KDY
 and community water supplies. As a result, there is an increase in ‘superbugs’
 – those that mutate and become antibiotic-resistant. Therefore, use antibiotics
 only when absolutely necessary and then replenish your system with the
 QXWULHQWV WKH\ GHVWUR\ HVSHFLDOO\ 352ELRWLFV

SUGGESTED ALTERNATIVES:

Acacia gum, Arjuna, Clove, Cinnamon, and Eucalyptus have strong antimicrobial
 activity against several multi-strain resistant bacteria.

*Khan et al: Antimicrobial activity of ve herbal extracts against multi drug resistant (MDR) strains of
 bacteria and fungus of clinical origin. Molecules 2009 Feb 4;14(2):586-97

Aloe vera has some anti-bacterial effects.

Nature's Pharmacy: Evidence-Based Alternatives to Drugs

- *Ferro et al: In vitro susceptibilities of *Shigella flexneri* and *Streptococcus pyogenes* to inner gel of *Aloe barbadensis* Miller. *Antimicrob Agents Chemother* 2003 Mar;47(3):1137-9
- *Shilpakala et al: Susceptibilities of *Escherichia coli* and *Staphylococcus aureus* to *Aloe barbadensis*. *Cochrane Database Syst Rev* 2002(2):CD001480
- **Alpinia galanga*, a member of the ginger family, is effective against several drug-resistant bacteria.
- *Latha et al: Antiplasmodial activity of 1'-acetoxychavicol acetate from *Alpinia galanga* against multi-drug resistant bacteria. *J Ethnopharmacol* 2009 Jun 25;123(3):522-5

Shilpakala has significant anti-Tubercular activity.

- *Deng et al: Anti-TB polyynes from the roots of *Angelica sinensis*. *Phytother Res* 2005 Sep;19(9):733-9

Apples reduce the side effects caused by the cholera vaccine and with **Hops**, protects ligament cells in the mouth. Buy only **organic** **DSSOHV DV WKH\ DUH WKH IRR** contains pesticides, many of which cause cancer.

- *Apples worst for pesticides on produce list. *CBC News*, Jun 14, 2011
- *DeNoon: Apples Are Top Food With Most Pesticides: 'Dirty Dozen' List Reveals Fruits/Veggies With Most Pesticides. *WebMD Health News* June 13, 2011
- *Inaba et al: Apple- and hop-polyphenols protect periodontal ligament cells stimulated with enamel matrix derivative from *Porphyromonas gingivalis*. *J Periodontol* 2005 Dec;76(12):2223-9
- *Shabecoff: 100 Chemicals for Apples Add Up to Enigma on Safety. *NY Times* Feb 5, 1989
- *The Full List: 53 Fruits and Veggies. Environmental Working Group. www.ewg.org/foodnews/list/
- *Yoshino et al: Co-administration of cholera toxin and apple polyphenol extract as a novel and safe mucosal adjuvant strategy. *Vaccine* 2009 Jul 30;27(35):4808-17

Astragalus is an herb that enhances the immune system in TB patients as well as children with recurring tonsillitis.

- *Xu et al: Effects of *Astragalus polysaccharides* and *astragalosides* on the phagocytosis of *Mycobacterium tuberculosis* by macrophages. *Biomed Res* 2011;32(1):19-28
- *Yang et al: Effects of *astragalus membranaceus* on TH cell subset function in children with recurrent tonsillitis. *Phytother Res* 1999 Jun;13(4):349-51

Avocado **KDV DQWLR[LGDQW DQG DQWL PLFURELDO HIIHFWV**

- *Chia & Dykes: Antimicrobial activity of crude epicarp and seed extracts from mature avocado fruit (*Persea americana*) of three cultivars. *Pharm Biol* 2010 Jul;48(7):753-6
- *Rodríguez-Carpena et al: Avocado (*Persea americana* Mill.) phenolics, in vitro antioxidant and antimicrobial activities, and inhibition of lipid and protein oxidation in porcine patties. *J Agric Food Chem* 2011 May 25;59(10):5625-35

Bay leaf **LV HIIHFWLYH DJDLQVW 056\$ 0HWKLFLOOLQ UHVLVWDQW 6**

- *Otsuka et al: Anti-methicillin resistant *Staphylococcus aureus* (MRSA) compounds isolated from *Laurus nobilis*. *Biol Pharm Bull* 2008 Sep;31(9):1794-7

Bee propolis, including the potent Brazilian green bee propolis, is effective against **056\$ DQG RWKHU EDFWHULDO VWUDLQV DQG LQ SUHYHQWLQJ HDU** ically prone to them.

- *Campana et al: Antimicrobial activity of two propolis samples against human *Campylobacter jejuni*. *J Med Food* 2009 Oct;12(5):1050-6
- *Leitão et al: Comparative evaluation of in-vitro effects of Brazilian green propolis and *Baccharis dracunculifolia* extracts on cariogenic factors of *Streptococcus mutans*. *Biol Pharm Bull* 2004 Nov;27(11):1834-9
- *Marchisio et al: Effectiveness of a propolis and zinc solution in preventing acute otitis media in children with a history of recurrent acute otitis media. *Int J Immunopathol Pharmacol* 2010 Apr-Jun;23(2):567-75

*Raghukumar et al: Antimethicillin-resistant Staphylococcus aureus (MRSA) activity of 'paci c propolis' and isolated prenyl avanones. Aliment Pharmacol Ther 1998 Dec;12(12):1279-89

*Ugur et al: Antimicrobial effects of propolis extracts on Escherichia coli and Staphylococcus aureus strains resistant to various antibiotics and some microorganisms. J Med Food 2000;3(4):173-80

Beetroot, Apple and Citrus pectins have anti-bacterial activity against the staphylococcal bacteria.

*Fluer et al: Influence of various pectins on production of staphylococcal enterotoxins types A and B]. Zh Mikrobiol Epidemiol Immunobiol 2007 Nov-Dec(6):11-6

Berberine-containing plants % DUEHUU \ *ROGHQVHDO *ROGHQWKUHD
DUH VWURQJ DQWL PLFURELDOV DJDLQVW EDFWHULD YLUXVH
DQG FKODP\GLD 7KH\ DOVR KDYH DQWL FDQFHU EHQHÀWV

*Hwang et al: Antimicrobial constituents from goldenseal (the Rhizomes of Hydrastis canadensis) against selected oral pathogens. Planta Med 2003 Jul;69(7):623-7

*Lin et al: In vitro anti-hepatoma activity of fifteen natural medicines from Canada. Altern Med Rev 2000 Apr;5(2):175-7

*Mahady et al: In vitro susceptibility of Helicobacter pylori to isoquinoline alkaloids from Sanguinaria canadensis and Hydrastis canadensis. J Med Food 2007 Dec;10(4):694-701

*Sera m et al: Different concentrations of berberine result in distinct cellular localization patterns and cell cycle effects in a melanoma cell line. Cancer Chemother Pharmacol 2008 May;61(6):1007-18

Beta Glucans are polysaccharides derived from oats, mushrooms, barley or yeasts.

Beta glucans are particularly effective for priming and normalizing the immune system and protecting the body against a number of pathogenic bacteria.

*Aviles et al: Active hexose correlated compound enhances resistance to Klebsiella pneumoniae infection in mice in the hindlimb-unloading model of space flight conditions. J Appl Physiol 2003 Aug;95(2):491-6

*Kernodle et al: Prophylactic anti-infective activity of poly-(1-6)-beta-D—Glucapyranosyl-(1-3)-beta-D-glucapyranose glucan in a guinea pig model of Staphylococcal wound infection. Antimicrob Ag Chemother 1998;42:545-49

*Lahnborg et al: The effect of glucan—a host resistance activator—and ampicillin on experimental intra-abdominal sepsis. J Reticuloendothel Soc 1982;32:347-53

*Rasmussen et al: Killing of Escherichia coli by mononuclear phagocytes and neutrophils stimulated in vitro with beta-1, 3-D-polyglucose derivatives. Microbiol Immunol 1992;36(11):1173-88

*Rasmussen & Seljelid: Dynamics of blood components and peritoneal fluid during treatment of murine E. coli sepsis with beta-1, 3-D-polyglucose derivatives. I: Cells. Scand J Immunol 1990 Oct;32(4):321-31

*Rasmussen & Seljelid: Dynamics of blood components and peritoneal fluid during treatment of murine E. coli sepsis with beta-1, 3-D-polyglucose derivatives. II. Interleukin 1, tumor necrosis factor, prostaglandin E2 and leukotriene B4, Scand J Immunol 1990 Oct;32(4):333-40

*Rasmussen et al: Dynamics of blood components and peritoneal fluid during treatment of murine E. coli sepsis with beta-1, 3-D-polyglucose derivatives. Scand J Immunol 1985;63:73-80

*Williams & Diluzio: Glucan induced modification of experimental Staphylococcus aureus infection in normal, leukemic and immunosuppressed mice. Adv Exp Med Biol 1979;121(A):291-306

Black Cumin Seed LV DQ HIIHF WLYH DQWL EDFWHULDO DJDLQVW 056\$

*Hannan et al: Anti bacterial activity of Nigella sativa against clinical isolates of methicillin resistant Staphylococcus aureus. J Ayub Med Coll Abbottabad 2008 Jul-Sep;20(3):72-4

Capsaicin, from hot peppers, is effective against the cholera bacterium.

*Chatterjee et al: Capsaicin, a potential inhibitor of cholera toxin production in Vibrio cholerae. FEMS Microbiol Lett 2010 May;306(1):54-60

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Carotenoids, IURP UHG \HOORZ RUDQJH DQG GDUN JUHHQ IUXLWV D IHFWLYH DJDLQVW D YDULHW\ RI GUXJ UHVLVWDQW EDFWHULD L for causing stomach ulcers.

*Molnár et al: Biological activity of carotenoids in red paprika, Valencia orange and Golden delicious apple. *Phytother Res* 2005 Aug;19(8):700-7

Catnip is an herb that is effective against *Staphylococcus aureus*.

*Nostro et al: The effect of *Nepeta cataria* extract on adherence and enzyme production of *Staphylococcus aureus*. *Int J Antimicrob Agents* 2001 Dec;18(6):583-5

Cat's Claw is an herb that boosts the immune system but it also has antibacterial activity.

*Ccahuana-Vasquez et al: Antimicrobial activity of *Uncaria tomentosa* against oral human pathogens. *Braz Oral Res* 2007 Jan-Mar;21(1):46-50

*Eberlin et al: *Uncaria tomentosa* extract increases the number of myeloid progenitor cells in the bone marrow of mice infected with *Listeria monocytogenes*. *Int Immunopharmacol* 2005 Jul;5(7-8):1235-46

Cinnamon and Oregano are effective against antibiotic-resistant *Campylobacter*.

*Ravishankar et al: Plant-derived compounds inactivate antibiotic-resistant *Campylobacter jejuni* strains. *J Food Prot* 2008 Jun;71(6):1145-9

Clove inhibits various bacteria and other pathogens.

*Bhamarapravati et al: Extracts of spice and food plants from Thai traditional medicine inhibit the growth of the human carcinogen *Helicobacter pylori*. *Indian J Ophthalmol* 2009 May-Jun;57(3):185-9

*Wu et al: Compounds from *Syzygium aromaticum* possessing growth inhibitory activity against oral pathogens. *J Nat Prod* 1996 Oct;59(10):987-90

Clove, Guava and Lemongrass increase effects of antimicrobial drugs.

*Betoni et al: Synergism between plant extract and antimicrobial drugs used on *Staphylococcus aureus* diseases. *Mem Inst Oswaldo Cruz* 2006 Jun;101(4):387-90

Clove and Holy Basil SURWHFW WKH ERG\ DJDLQVW .OHEVLHOOD EDFWHU

*Saini et al: Induction of resistance to respiratory tract infection with *Klebsiella pneumoniae* in mice fed on a diet supplemented with tulsi (*Ocimum sanctum*) and clove (*Syzygium aromaticum*) oils. *J Microbiol Immunol Infect* 2009 Apr;42(2):107-13

Coconut water has antimicrobial effects.

*Mandal et al: Identification and structural insights of three novel antimicrobial peptides isolated from green coconut water. *Peptides* 2009 Apr;30(4):633-7

Colloidal Silver LQKLELWV VHYHUDO GUXJ UHVLVWDQW VWUDLQV RI ED monas aeruginosa and *Aeromonas hydrophila* in tap water, possibly replacing the need for chlorine.

*Bhattacharyya & Bradley: A case report of the use of nanocrystalline silver dressing in the management of acute surgical site wound infected with MRSA to prevent cutaneous necrosis following revision surgery. *Int J Low Extrem Wounds* 2008 Mar;7(1):45-8

*Edwards-Jones: Antimicrobial and barrier effects of silver against methicillin-resistant *Staphylococcus aureus*. *J Wound Care* 2006 Jul;15(7):285-90

*Panacek et al: Silver colloid nanoparticles: synthesis, characterization, and their antibacterial activity. *J Phys Chem B* 2006 Aug 24;110(33):16248-53

*Silvestry-Rodriguez et al: Inactivation of *Pseudomonas aeruginosa* and *Aeromonas hydrophila* by silver in tap water. *J Environ Sci Health A Tox Hazard Subst Environ Eng* 2007 Sep;42(11):1579-84

Cordyceps mushroom prevents pathogenic bacterial growth, including TB bacteria.

- *Gordien et al: Activity of Scottish plant, lichen and fungal endophyte extracts against *Mycobacterium aurum* and *Mycobacterium tuberculosis*. *Phytother Res* 2009 Oct 13
- *Koh et al: Hot-water extract from mycelia of *Cordyceps sinensis* as a substitute for antibiotic growth promoters. *Biotechnol Lett* 2003 Apr;25(7):585-90
- *Kuo et al: *Cordyceps sinensis* mycelium protects mice from group A streptococcal infection. *Mol Chem Neuropathol* 1998 Feb;33(2):139-48

Cranberry extract UHVLVWV DGKHUHQFH RI (& ROL DQG LV MXVW DV HII

- *Gupta et al: Inhibition of adherence of multi-drug resistant *E. coli* by proanthocyanidin. *Urol Res* 2011 Jun 19
- *McMurdo et al: Cranberry or trimethoprim for the prevention of recurrent urinary tract infections? A randomized controlled trial in older women. *J Antimicrob Chemother* 2009 Feb;63(2):389-95

Cruciferous vegetables FDEEDJH IDPLO\ KDYH DQWLEDFWHULDO DV ZH and antitumour properties.

- *Johansson et al: Growth inhibition of a spectrum of bacterial and fungal pathogens by sulforaphane, an isothiocyanate product found in broccoli and other cruciferous vegetables. *Planta Med* 2008 Jun;74(7):747-50

Curcumin LV WKH DFWLYH SDUW RI 7XUPHULF DQG KDV PDQ\ KH antibiotic and antifungal effects.

- *Wang et al: Study on the antibiotic activity of microcapsule curcumin against foodborne pathogens. *Int J Food Microbiol* 2009 Nov 30;136(1):71-4

Dandelion VWLPXODWHV WKH JURZWK RI DW OHDVW V\WUDLQV VDU\ 352ELRWLF 7KH RWKHU QHFHVVDU\ SURELRWLFV DUH WK

- *Trojanová et al: The biogenic effect of *Taraxacum officinale* root. *Fitoterapia* 2004 Dec;75(7-8):760-3

EGCG HSLFDWHFKLQ JDOODWH² IURP JUHHQ WHD LV HIIHFWL

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Essential Oils have anti-bacterial properties, especially Anise, Cinnamon, Clove, & XPLQ (XFDO\SWXV *HUDQLXP *UDSHIUXLW /DYHQGHU /HPR WDLQ VDYRU\ 2UHJDQR 3HSSHUPLQW 5RVHZRRG 6DJH 6DQ UDJRQ 7HD WUHH PHODOHXFD 7K\PH 7XUPHULF DQG :LQWH

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Fennel, and its Essential oil K D V V L J Q L A F D Q W D Q W L E D F W H U L D O D F W L Y
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Grape seed extract LV HIIHFWLYH DJDLQVW 056\$

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VHYHUH VHSVLV UHOLHYLQJ SDLQ DQG EUXLVLQJ DIWHU VXUJHU
NQRZQ RULJLQV DQG IRU VLQXVLWLV

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L Q I H F W L R Q V L Q Z R X Q G V L Q F O X G L Q J 0 5 6 \$ D Q G R W K H U P X O W L
X N D S O D Q W R I 1 H Z = H D O D Q G L V U H O D W H G W R W K H 7 H D 7 U H H
V X S H U L R U D Q W L P L F U R E L D O S U R S H U W L H V , Q R Q H V W X G \ D O R C
infections ceased. The honey dressings did not adhere to or irritate the wound, and
W K H \ Z H U H H D V L O \ D Q G S D L Q O H V V O \ U H Q H Z H G μ 8 V H R Q O \ X Q S
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Q L F H D G G L W L R Q W R J U H H Q G U L Q N V Z K L O H J L Y L Q J D Q W L E D F W

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E \ . O H E V L H O O D S Q H X P R Q L D

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Pomegranate, Copper, and Vitamin C SURYHG HIIHFWLYH DJDLQVW-3VHXGRPRC egranate peel also has antibacterial and antifungal effects.

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Probiotics, LQ V LJQLÀFDQW DPRXQWV DQG YDULHG VWUDLQV DUH YL EDFWHULDO LQIHFWLRQV LQFOXGLQJ VXSHUEXJV OLNH & GLIÀ WKH LPPXQH V\ VWHP RI WKH LPPXQH V\ VWHP LV LQ WKH QRU LPSRUWDQW WR NHHS WKH JRRG EDFWHULD ZHOO IHG IHG :KHQ GRVDJH <RXXUW GRHV QRW KDYH QHDUO\ HQRXJK JRRG EDFWHU even have active culture. Antibiotics can often cause diarrhea and probiotics have proven to overcome this side effect.

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- *Choi et al: Production of a nisin-like bacteriocin by *Lactococcus lactis* subsp. *lactis* A164 isolated from Kimchi. *Eur Rev Med Pharmacol Sci* 2009 Nov-Dec;13(6):461-4
- *Cianci et al: Ef cacy of *Lactobacillus Rhamnosus* GR-1 and of *Lactobacillus Reuteri* RC-14 in the treatment and prevention of vaginoses and bacterial vaginitis relapses. *Minerva Ginecol* 2008 Oct;60(5):369-76
- *Duman et al: Ef cacy and safety of *Saccharomyces boulardii* in prevention of antibiotic-associated diarrhoea due to *Helicobacter pylori* eradication. *Wei Sheng Yan Jiu* 2011 Jan;40(1):103-6
- *Gao et al: Dose-response ef cacy of a proprietary probiotic formula of *Lactobacillus acidophilus* CL1285 and *Lactobacillus casei* LBC80R for antibiotic-associated diarrhea and *Clostridium dif cile*-associated diarrhea prophylaxis in adult patients. *Am J Gastroenterol* 2010 Jul;105(7):1636-41
- *Hickson: Probiotics in the prevention of antibiotic-associated diarrhoea and *Clostridium dif cile* infection. *Therap Adv Gastroenterol* 2011 May;4(3):185-197
- *Karska-Wysocki et al: Antibacterial activity of *Lactobacillus acidophilus* and *Lactobacillus casei* against methicillin-resistant *Staphylococcus aureus* (MRSA). *Microbiol Res* 2010 Oct 20;165(8):674-86
- *Lee et al: Probiotics prophylaxis in children with persistent primary vesicoureteral re ux. *Pediatr Nephrol* 2007 Sep;22(9):1315-20
- *Lesbros-Panto ickova et al: *Helicobacter pylori* and Probiotics. *J Nutr* 2007 Mar;137:812S-18S
- *Lkhagvadorj et al: Anti-infectious activity of symbiotics in a novel mouse model of methicillin-resistant *Staphylococcus aureus* infection. *Microbiol Immunol* 2010 May ;54(5):265-75
- *Oishi et al: Effect of probiotics, *Bi dobacterium breve* and *Lactobacillus casei*, on bisphenol A exposure in rats. *Biosci Biotechnol Biochem* 2008 Jun;72(6):1409-15
- *Rohde et al: The use of probiotics in the prevention and treatment of antibiotic-associated diarrhea with special interest in *Clostridium dif cile*-associated diarrhea. *Nutr Clin Pract* 2009 Feb-Mar;24(1):33-40
- *Sugawara et al: Perioperative synbiotic treatment to prevent postoperative infectious complications in biliary cancer surgery: a randomized controlled trial. *Ann Surg* 2006 Nov;244(5):706-14

- *Sullivan et al: Effect of supplement with lactic-acid producing bacteria on fatigue and physical activity in patients with chronic fatigue syndrome. *Nutr J* 2009 Jan 26;8:4
- *Szajewska et al: Meta-analysis: *Saccharomyces boulardii* for treating acute diarrhoea in children.-*Aliment Pharmacol Ther* 2007 Feb 1;25(3):257-64
- *Wu & Vallance: *Saccharomyces boulardii* ameliorates *Citrobacter rodentium*-induced colitis through actions on bacterial virulence factors. *Am J Physiol Gastrointest Liver Physiol* 2008 Jan;294(1):G295-306
- *Wullt et al: *Lactobacillus plantarum* 299v enhances the concentrations of fecal short-chain fatty acids in patients with recurrent *Clostridium difficile*-associated diarrhea. *Dig Dis Sci* 2007 Sep;52(9):2082-6

Quercetin, D ELRÁDYRQRLG LQKLELWV VLJQLÀFDQW RUDO SDWKR

- *Geoghegan et al: Inhibitory effect of quercetin on periodontal pathogens in vitro. *Phytother Res* 2009 Dec 2

Rosemary is effective against bacterial and fungal infections.

- *Luqman et al: Potential of rosemary oil to be used in drug-resistant infections. *Altern Ther Health Med* 2007 Sep-Oct;13(5):54-9
- *Zilberg et al: Dried leaves of *Rosmarinus officinalis* as a treatment for streptococcosis in tilapia. *J Environ Sci Health A Tox Hazard Subst Environ Eng* 2007 Sep;42(11):1579-84

Saccharomyces boulardii is a probiotic yeast and not related to *Candida albicans* yeast that plagues many people. It is particularly valuable for bouts of colitis and

controlling diarrhea caused by the & GLIÀFL bacteria, which is often fatal for many

KRVSLWDO SDWLHQWV HVSHFLDOO\ WKH HOGHUO\ ,W VKRXOG

good protection. In children , it is used to overcome *E. coli* infections and vesicou -

UHWHUDO UHÁX[ZKHUH WKH XULQH ÁRVZ IURP WKH EODGGHU

- *Akil et al: Influence of oral intake of *Saccharomyces boulardii* on *Escherichia coli* in enteric flora. *Pediatr Nephrol* 2006 Jun;21(6):807-10
- *Castagliuolo et al: *Saccharomyces boulardii* protease inhibits the effects of *Clostridium difficile* toxins A and B in human colonic mucosa. *Infect Immun* 1999 Jan;67(1):302-7
- *Chen et al: *Saccharomyces boulardii* inhibits ERK1/2 mitogen-activated protein kinase activation both in vitro and in vivo and protects against *Clostridium difficile* toxin A-induced enteritis. *J Biol Chem* 2006 Aug 25;281(34):24449-54
- *Dinleyici et al: Clinical efficacy of *Saccharomyces boulardii* and metronidazole compared to metronidazole alone in children with acute bloody diarrhea caused by amebiasis: a prospective, randomized, open label study. *Am J Trop Med Hyg* 2009 Jun;80(6):953-5
- *Lee et al: The effect of *Saccharomyces boulardii* on human colon cells and inflammation in rats with trinitrobenzene sulfonic acid-induced colitis. *Dig Dis Sci* 2008 Jul 10
- *Lee et al: Probiotics prophylaxis in children with persistent primary vesicoureteral reflux. *Pediatr Nephrol* 2007 Sep;22(9):1315-20
- *Mansour-Ghanaei et al: Efficacy of *Saccharomyces boulardii* with antibiotics in acute amoebiasis. *World J Gastroenterol* 2003 Aug;9(8):1832-3
- *Ochoa-Repáraz et al: Gut, bugs, and brain: role of commensal bacteria in the control of central nervous system disease. *Ann Neurol* 2011 Feb;69(2):240-7
- *SavaúErdeve et al: Efficacy and safety of *Saccharomyces boulardii* in amebiasis-associated diarrhea in children. *Turk J Pediatr* 2009 May-Jun;51(3):220-4
- *Tung et al: Prevention of *Clostridium difficile* infection with *Saccharomyces boulardii*: a systematic review. *Can J Gastroenterol* 2009 Dec;23(12):817-21

Savory KDV DQWLEDFWHULDO DQG DQWLIXQJDO DFWLYLW\ EXW RCO
WLRQ DQG QRW WKH KH[DQH

- *Sahin et al: Evaluation of antimicrobial activities of *Satureja hortensis* L. *J Ethnopharmacol* 2003 Jul;87(1):61-5

Nature's Pharmacy: Evidence-Based Alternatives to Drugs

Shiitake mushroom is a potent antimicrobial.

*Hearst et al: An examination of antibacterial and antifungal properties of constituents of Shiitake (*Lentinula edodes*) and oyster (*Pleurotus ostreatus*) mushrooms. *Complement Ther Clin Pract* 2009 Feb;15(1):5-7

Slovak Honeydew Honey LV PRUH HIIHFWLYH WKDQ 0DQXND KRQH\ DJD strains of bacteria.

*Majtan et al: Honeydew honey as a potent antibacterial agent in eradication of multi-drug resistant *Stenotrophomonas maltophilia* isolates from cancer patients. *Phytother Res* 2010 Sep 29

Spices have anti-microbial effects against cholera-type bacteria. Spices tested were EDVLO FORYH JDUOLF KRUVHUDGLVK PDUMRUDP RUHJDQR UR

*Yano et al: Antimicrobial effect of spices and herbs on *Vibrio parahaemolyticus*. *Int J Food Microbiol* 2006 Aug 15;111(1):6-11

Stevia, an herb that is 200 times sweeter than table sugar, is often used by diabetics DQG QRQ GLDEHWLWFV DOLNH EHFDXVH RI LWV VZHHWQHVV KHD 2QH RI WKH KHDOWK EHQHÀWV LV WKDW LW LV HIIHFWLYH DJDLG SDWKRJHQV ZLWKRXW DIIHFWLQJ EHQHÀFLDO JXW EDFWHULD

*Tomita et al: Bactericidal activity of a fermented hot-water extract from *Stevia rebaudiana* Bertoni towards enterohemorrhagic *Escherichia coli* O157:H7 and other food-borne pathogenic bacteria. *Microbiol Immunol* 1997;41(12):1005-9

Tripterygium wilfordii is a Chinese herbal medicine that proves superior to sulfasalazine.

*Goldbach-Mansky et al: Comparison of *Tripterygium wilfordii* Hook F versus sulfasalazine in the treatment of rheumatoid arthritis: a randomized trial. *Ann Intern Med* 2009 Aug 18;151(4):229-40

Vitamin D3 LV YLWDO IRU VWUHQJWKHQLQJ WKH LPPXQH V\ VWHP \$ G such dangerous infections as Bacterial vaginosis during pregnancy and tuberculo - VLV DPRQJ PDQ\ GLVHDVHV SHRSOH DUH DW ULVN RI GHYHORSLO

*Bodnar et al: Maternal vitamin D deficiency is associated with bacterial vaginosis in the first trimester of pregnancy. *J Nutr* 2009 Jun;139(6):1157-61

*Fabri et al: Tuberculosis. Vitamin D is required for IFN-mediated antimicrobial activity of human macrophages. *Sci Transl Med* 2011 Oct 12;3(104):104ra102

Wintercherries 3K\VDOLV DQJXODWD KDYH DQWL EDFWHULD O HIIHFWV D

*Pietro et al: In vitro antimycobacterial activities of *Physalis angulata* L. *Phytomed* 2000 Jul;7(4):335-8

Wormwood is the herb of choice when it comes to getting rid of internal parasites but it also has some antibacterial effects.

*Fiamegos et al: Antimicrobial and efflux pump inhibitory activity of caffeoylquinic acids from *Artemisia absinthium* against gram-positive pathogenic bacteria. *PLoS One* 2011;6(4):e18127

Wormwood, Tarragon, and Eucalyptus prove effective against *E. coli*.

*Shahverdi et al: A TLC bioautographic assay for the detection of nitrofurantoin resistance reversal compound. *J Chromatogr B Analyt Technol Biomed Life Sci* 2007 May 1;850(1-2):528-30



ANTI-DEPRESSANTS

(USED TO TREAT VARIOUS FORMS OF DEPRESSION)

COMMON EXAMPLES :

Tricyclics

- amitriptyline – Elavil and others
- amoxapine – Asendin
- doxepin – 6 L Q H T X D Q
- imipramine – Tofranil and others
- nortriptyline – Aventyl and others

*MAOs P R Q R D P L Q H R [L G D V H L Q K L E L W R U V

- eldepryl – Selegiline
- isocarboxazid ² 0 D U S O D Q
- moclobemide ² \$ X U R U L [0 D Q H U L [
- phenelzine 1 D U G L O
- rasagiline – Azilect
- tranylcypromine ² 3 D U Q D W H

SSRIs V H O H F W L Y H V H U R W R Q L Q U H X S W D N H L Q K L E L W R U V

- citalopram ² & H O H [D
- Á X R [H W L Q H U R] D F 6 D U D I H P) R Q W H [
- paroxetine ² 3 D [L O
- sertraline – Zoloft
- ... and others

Others

- bupropion – Wellbutrin
- trazadone ² ' H V \ U H O
- venlafaxine ² (I I H [R U

DEplete :

B1, B2, B3, B5, B6, B8, B9, B12, C, choline, calcium, chromium, magnesium, selenium, melatonin, CoQ10, DHEA, glutathione/NAC

- MAO Caution: There are at least four types of foods that must be strictly avoided Z K H Q W D N L Q J W K H V H G U X J V 7 K H \ F R Q W D L Q W \ U D P serious side effects.

Nature's Pharmacy: Evidence-Based Alternatives to Drugs

x EURDG EHDQV IDYD ,WDOLDQ JUHHQ EHDQV

x \HDVW FRQFHQWUDWHV 0DUPLWH EUHZHU·V \HDVW \HD

x VDOWHG VPRNHG RU SLFNOHG ÀVK

x aged cheese

· SSRIs DUH OLQNHG WR VH[XDO G\VIXQFWLRQ LQ ERWK PHQ DQ

* Clayton et al: Burden of phase-specific sexual dysfunction with SSRIs. J Affect Disor 2006 Mar;91(1):27-32

· SSRIs DUH OLQNHG WR FRQJHQLWDO GHIHFWV LQFOXGLQJ KLJK

* Baker: SSRI horrors grow: women who take popular antidepressants risk babies with severe high blood pressure. NaturalNews Fri Jan 13, 2012

* Malm et al: Selective serotonin reuptake inhibitors and risk for major congenital anomalies. Obstet Gyn 2011 Jul;118(1):111-20

· Analgesics WDNHQ UHJXO Antidepressants increase restless leg syndrome.

* Leutgeb & Martus: Regular intake of non-opioid analgesics is associated with an increased risk of restless legs syndrome in patients maintained on antidepressants. Eur J Med Res 2002 Aug 30;7(8):368-78

· Antidepressants have little or no positive effect compared to a placebo but instead, had more negative results including the increased need for multi-drug treatments.

* Fontanella et al: Psychotropic medication changes, polypharmacy, and the risk of early readmission in suicidal adolescent inpatients. Ann Pharmacother 2009 Dec;43(12):1939-47

* Fournier et al: Antidepressant drug effects and depression severity: a patient-level meta-analysis. JAMA 2010;303(1):47-53

* Kirsch et al: Initial severity and antidepressant benefits: a meta-analysis of data submitted to the food and drug administration. PLoS Med 2008;5(2):e45

* Mojtabai & Olfson: National trends in psychotropic medication polypharmacy in of ce-based psychiatry. Arch Gen Psych 2010;67:26-36

· Antidepressants are not safe to use in treating cocaine addiction.

* O'Dell et al: Antidepressant drugs appear to enhance cocaine-induced toxicity. Exp Clin Psychopharmacol 2000 Feb;8(1):133-41

· Chocolate consumption increases when depressed.

* Rose et al: Mood food: chocolate and depressive symptoms in a cross-sectional analysis. Arch Intern Med 2010 Apr 26;170(8):699-703

· * DVWURLQWHVWLQDQ increase in the prevalence of depression.

* Fehér et al: Role of gastrointestinal innervations in the development and treatment of depression. Orv Hetil 2011 Sep 8 ;152(37):1477-85

· Hair loss LV DVVRFLDWHG ZLWK WKH DQWLGHSHUHVVDQW DUR[H

* Zalsman et al: Hair loss associated with paroxetine treatment: a case report. Clin Neuropharmacol 1999 Jul-Aug;22(4):246-7

· Nicotine use GXULQJ WHHQ \HDUV LQFUHDVHV WKH OLNHOHLKRRC adults.

* Iñiguez et al: Nicotine exposure during adolescence induces a depression-like state in adulthood.

ANTI-DEPRESSANTS