Nutrient Therapies

Female ( & male ) problems
Dysmenorrhea
Dysmenorrhea

Diet

Micronutrient (efficacy supported by controlled human trial)

Dose (per day)

Reduce or stop fruit intake; avoid unripe fruits

1 to 6 caps per day

Bifidus

1 to 3 caps per day

Vit. A

25,000 to 150,000 UI per day

Consume boiled foods

Zinc

25 to 50 mg per day

(Consume green vegetables & fatty fish)

Avoid or reduce iron or Mg supplements

If Mg causes digestive troubles

4x 100 mg to 200 mg during menses + 4x 25 mg B6

1 g EPA + 0.7 g DHA (2 mo.)

100 mg (3 months)

(alpha-tocopherol)

3x 50 mg beginning 10 days before menses (2 weeks)

Adapted from the Textbook of Nutritional therapies- Melvyn Wherbach

SUPPLY

Magnesium (+ vit. B6) (?)

Fish oil

Vit. B1 (thiamine)

Vit. E

Lactobacillus acidophilus
Primary dysmenorrhea: no other existing condition that may cause the pain

Secondary dysmenorrhea = dysmenorrhea which is associated with an existing condition.

Most common cause of secondary dysmenorrhea = endometriosis

Secondary dysmenorrhea: Causes

The most common cause of secondary dysmenorrhea is **endometriosis**


Other causes include

- **leiomyoma**,  
- **adenomyosis**,  
- **ovarian cysts**, and pelvic congestions.  
- **The presence of a copper IUD** can also cause dysmenorrhea.  
Dysmenorrhea: Causes

- Release of prostaglandins & other inflammatory mediators in the uterus => uterus to contract. These substances are thought to be a major factor in primary dysmenorrhea. [Wright, Jason and Solange Wyatt. The Washington Manual Obstetrics and Gynecology Survival Guide. Lippincott Williams and Wilkins, 2003.]

- When the uterine muscles contract => constrict the blood supply to the tissue of the endometrium, => breaks down & dies. These uterine contractions continue as they squeeze the old, dead endometrial tissue through the cervix => out of the body through the vagina. These contractions, & the resulting temporary oxygen deprivation to nearby tissues, => pain or "cramps" experienced during menstruation.

Endometriosis

Common sites for endometrial growths in red

- Ovary
- Rectum
- Uterus
- Bladder

Normal endometrial lining

© ADAM, Inc.
Burned out
## Dysmenorrhea

<table>
<thead>
<tr>
<th>Diet</th>
<th>Micronutrient</th>
<th>Dose (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce or stop fruit intake; avoid unripe fruit</td>
<td><strong>Lactobacillus acidophilus</strong></td>
<td>1 to 6 caps per day</td>
</tr>
<tr>
<td>Consume boiled foods</td>
<td>Bifidus</td>
<td>1 to 3 caps per day</td>
</tr>
<tr>
<td>(Consume green vegetables &amp; fatty fish)</td>
<td><strong>Vit. A</strong></td>
<td>25 000 to 150 000 UI per day</td>
</tr>
<tr>
<td>(Consume green vegetables &amp; fatty fish)</td>
<td>Zinc</td>
<td>25 to 50 mg per day</td>
</tr>
<tr>
<td>Avoid or reduce iron or Mg supplements</td>
<td><strong>Magnesium (+ vit. B6) (?)</strong></td>
<td>4x 100 mg to 200 mg during menses + 4x 25 mg B6</td>
</tr>
<tr>
<td>Avoid or reduce iron or Mg supplements</td>
<td><strong>Fish oil</strong></td>
<td>1 g EPA + 0.7 g DHA (2 mo.)</td>
</tr>
<tr>
<td>Avoid or reduce iron or Mg supplements</td>
<td><strong>Vit. B1 (thiamine)</strong></td>
<td>100 mg (3 months)</td>
</tr>
<tr>
<td>Avoid or reduce iron or Mg supplements</td>
<td><strong>Vit. E (alpha-tocopherol)</strong></td>
<td>3x 50 mg beginning 10 days before menses (2 weeks)</td>
</tr>
</tbody>
</table>

Adapted from the Textbook of Nutritional therapies - Melvyn Wherbach
Fibroids
SUBJECTS: 636 women aged 35-44 randomly (57% were African-American)

RESULTS: risks of fibroids

- The median 25(OH)D level was 12.0 ng/mL (interquartile range: 7.6, 19.7 ng/mL).
- After controlling for age, race, BMI, education, age of menarche, current smoking, alcohol use, and physical activity, a decrease in 25(OH)D of 10 ng/mL was associated with 1.9 times the odds of irregular cycles (Odds ratio (OR) (95% confidence interval (CI)): 1.9 (1.0, 3.4), p=0.04).
- 25(OH)D was not associated with the occurrence of short cycles (OR(CI): 1.08 (0.79, 1.48, p=0.6) or long cycles (OR(CI): 1.31 (0.66, 2.60), p=0.4).

CONCLUSIONS:

- Lower levels of 25(OH)D were associated with irregular cycles, but not with short or long cycles. Vitamin D may play a role in regulating ovulatory function. Further investigation of potential mechanisms is warranted.

Vitamin D deficiency => plays a significant role in the development of uterine fibroids. Our recent studies have demonstrated that vitamin D3 reduces leiomyoma cell proliferation in vitro and leiomyoma tumor growth in in vivo animal models. These results postulate the potential role of vitamin D3 for an effective, safe, nonsurgical medical treatment option for uterine fibroids.

Vitamin D deficiency => cross-sectional analysis of Vitamin D exposure, measured using serum levels of 25(OH)D (a Vitamin D metabolite), and self-reported UL diagnosis among

**SUBJECTS:** 3590 women aged 20-54 in the National Health and Nutrition Examination Survey (NHANES 2001-2006).

**RESULTS:** insufficient 25(OH)D was associated with uterine leiomyomata (UL) in white women (Odds ratio (OR) median estimate: 2.17; 2.5, 97.5 percentiles: (1.26, 23.47)), but not black women (OR median estimate: 1.70; 2.5, 97.5 percentiles: (0.89, 3.51)), suggesting misclassification may have driven some of the null findings.

**Mitro SD, Zota AR. Vitamin D and uterine leiomyoma among a sample of US women: Findings from NHANES, 2001-2006. Reprod Toxicol. 2015 Nov;57:81-6.**
Vitamin D => ↓ size of uterine fibroids in rats

25-Dihydroxyvitamin D3 (vitamin D3) shrinks uterine leiomyoma tumors in Eker rats. A) Female Eker rats having leiomyoma tumors were randomized into control and treatment groups. The control group of rats was given ethylene glycol that served as a vehicle control. Vitamin D3 was given to the treatment group at the rate of 0.5 µg/kg per day for 3 wk. At the end of 3 wk, all rats (six rats per group) were euthanized, and leiomyoma tumors were measured as described in Materials and Methods. The reduction in uterine leiomyoma tumor sizes in vitamin D3-treated rats was statistically significant (*P < 0.05). B) Representative pictures of leiomyoma tumors in the uterus of vehicle-treated control (left) and vitamin D3-treated (right) Eker rats are shown. The arrow points to the leiomyoma lesions at the uterine-cervical junction area.

## Fibroids

<table>
<thead>
<tr>
<th>Diet</th>
<th>Micronutrient</th>
<th>Dose (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid caffeine</td>
<td>Vitamin D</td>
<td>4000 IU/day</td>
</tr>
<tr>
<td>Avoid alcohol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Menorrhagia
Menorrhagia

SUPPLY

- Iron
- (Vit. K)
- (Manganese)
- Flavanoids + Vit. C
Menorrhagia: Causes

- **Causes**
  - Stress
  - Medications
  - Chronic Disease (Liver, Renal)
  - Diabetes

- **Hormones and Glands**
  - GnRH, TRH
  - LH, FSH
  - Estrogen
  - Progesterone
  - Thyroid Stimulating Hormone
  - Thyroid

- **Organ Sites**
  - CNS
  - Hypothalamus
  - Pituitary
  - Ovary
  - Uterus

- **Anatomic Abnormalities**
  - Leiomyomata
  - Endometrial, cervical cancer

- **Types of Fibroids**
  - Submucosal fibroid
  - Intramural fibroid
  - Subserosal fibroid
  - Pedunculated fibroid
## Menorrhagia

<table>
<thead>
<tr>
<th>Diet</th>
<th>Micronutrient (efficacy supported by controlled human trial)</th>
<th>Dose (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat green leaf vegetables (rich in chlorophyll –vit. K)</td>
<td><strong>Iron</strong></td>
<td>2x 30 mg to correction of iron deficiency</td>
</tr>
<tr>
<td></td>
<td>(Manganese)</td>
<td>10 to 50 mg</td>
</tr>
<tr>
<td></td>
<td>(Vit. K)</td>
<td>50 to 500 µg</td>
</tr>
<tr>
<td></td>
<td>(Vit. C)</td>
<td>1 to 2 g</td>
</tr>
<tr>
<td></td>
<td><strong>Flavanoids + Vit. C</strong></td>
<td>3 x 200 mg of each</td>
</tr>
<tr>
<td></td>
<td>(Vit. A)</td>
<td>2x 25 000 IU (15 days)</td>
</tr>
<tr>
<td></td>
<td>(Vit. B5 (panthothenate))</td>
<td>500 mg</td>
</tr>
<tr>
<td></td>
<td>Vit. B complex</td>
<td></td>
</tr>
</tbody>
</table>
Irregular menstrual cycles
Alcohol in all (« esp. beer), (heavy coffee in young women < 35 y) => ↑ uterine fibroids

SUBJECTS: 21,885 premenopausal US black women with intact uteri & no prior fibroids diagnosis

RESULTS: risks of fibroids
- Cigarette smoking was not associated
- positively associated with years of alcohol consumption and current consumption of alcohol, particularly beer. Relative to non-drinkers, multivariate IRRs for beer consumption of < 1, 1-6 and 7+ drinks/week were 1.11 (95% CI 0.98-1.27), 1.18 (95% CI 1.00-1.40) and 1.57 (95% CI 1.17-2.11), respectively
- Heavy coffee and caffeine consumption were not associated with risk overall, but incidence rate ratios (IRRs) were increased among women aged < 35 yrs.

CCL: In US black women, risk of uterine leiomyomata was positively associated with current consumption of alcohol, particularly beer

Hot flashes
### Female hormone problems

<table>
<thead>
<tr>
<th>Disease</th>
<th>Micronutrient (efficacy supported by controlled human trial)</th>
<th>Dose (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ↓ menopausal symptoms</td>
<td>Plants rich in phytoestrogens such as soy, celery, fennel, parsley, clover sprouts, high lignan flaxseed oil, nuts &amp; seeds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1 cup of soybeans = 300 mg of isoflavones = 0.45 mg of conjugated estrogens)</td>
<td></td>
</tr>
<tr>
<td>To ↓ hot flashes &amp; vulvovaginitis</td>
<td>Vit. E at very high doses</td>
<td>7500-8000 IU (6 weeks)</td>
</tr>
<tr>
<td>To ↓ hot flashes,</td>
<td>(Flavonoids: hesperidin + vit.C (3 x 250 mg))</td>
<td>4 x 200 mg after meals &amp; at bedtime,</td>
</tr>
<tr>
<td>nocturnal leg cramps,</td>
<td></td>
<td>then -50% or ↓ after 1 month</td>
</tr>
<tr>
<td>easy bruising, nosebleeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To ↑ serum estrogen</td>
<td>(Boron)</td>
<td>3 mg</td>
</tr>
<tr>
<td></td>
<td>(Cobalt)</td>
<td>400 µg</td>
</tr>
<tr>
<td>For mastalgia</td>
<td>(Evening primrose oil)</td>
<td>4 x 1 g</td>
</tr>
</tbody>
</table>

Adapted from the Textbook of Nutritional therapies- Melvyn Wherbach
Female Infertility
Infertility (female)

Stress, depression and anxiety associated with infertility and its treatment

Iron
vit. C
Vit. A
Zinc
### Infertility (female)

<table>
<thead>
<tr>
<th>Diet</th>
<th>Micronutrient (efficacy supported by controlled human trial)</th>
<th>Dose (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid alcohol</td>
<td>(Vit. B12 intramuscular injection)</td>
<td>1x/wk then /month</td>
</tr>
<tr>
<td>(Avoid caffeinated drinks)</td>
<td><strong>Iron + vit. C</strong></td>
<td>35 mg Fe + 200 mg vit. C</td>
</tr>
<tr>
<td></td>
<td>Vit. C to enhance Fe absorption</td>
<td>0.2 to 2 g per day</td>
</tr>
<tr>
<td>(Avoid tea)</td>
<td>(Zinc sulphate + copper sulphate)</td>
<td>2x 20 mg Zn + 2 mg cu</td>
</tr>
<tr>
<td>(Avoid gluten-rich grains)</td>
<td>(Folic acid)</td>
<td>3x 5 mg (3 months)</td>
</tr>
<tr>
<td><strong>To increase ovulation</strong></td>
<td><strong>Vit. C</strong> enhances clomiphene’s action</td>
<td>1 to 3 g</td>
</tr>
</tbody>
</table>

*Adapted from the Textbook of Nutritional Therapies - Melvyn Wherbach*
Headaches
Headaches

Foods
Headaches: Types

**Sinus:** pain is behind browbone and/or cheekbones

**Cluster:** pain is in and around one eye

**Tension:** pain is like a band squeezing the head

**Migraine:** pain, nausea, and visual changes are typical of classic form
Headaches:
Types

Common Locations of Headache Pain

- Tension Headache
- Cluster Headache
- Migraine Headache

Often on one side of the head, but location varies.
Vascular Headaches:

Migraine is the most common vascular headache. Vascular headaches are caused by blood vessel abnormalities, which by turns constrict & open blood vessels in the head.

Blood vessel abnormalities are a component of vascular headaches such as migraines and cluster headaches.
Sinus Headaches:

Sinus headaches occur when the sinuses become inflamed or congested.
Cluster Headaches:

= one-sided head pains that may involve tearing of the eyes and a stuffy nose.

The headaches occur repeatedly every day at the same time for several weeks & then go away.

See also:

Cluster headaches may involve pain around one eye, along with drooping of the lid, tearing and congestion on the same side as the pain.
Tension Headaches:

= most common type of headache, occurring between 30% to 78% of the population (this variation depends on the study).

The Tension Headache can range from infrequent episodic (< 1 day per month, on average) to the chronic (headache occurring on at least 15 days per month for > 3 months).

sensitivity (or lack of) to pressure on trigger points in the upper trapezius, masseter, temporal, sternius, pterygoid and sternocleidomastoid muscle.
<table>
<thead>
<tr>
<th>Diet</th>
<th>Micronutrient</th>
<th>Dose (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid caffeine</td>
<td>Fish oil</td>
<td>2.7 g EPA &amp; 1.8 g DHA (2 months)</td>
</tr>
<tr>
<td>Avoid alcohol</td>
<td>Vit. C</td>
<td>2x 0.5 g</td>
</tr>
<tr>
<td>Avoid foods that cause allergies or</td>
<td>Chromium (orotate)</td>
<td>85 µg</td>
</tr>
<tr>
<td>intolerance</td>
<td>Magnesium (?)</td>
<td>600 mg (2 months)</td>
</tr>
<tr>
<td></td>
<td>Vit. B2 (riboflavin)</td>
<td>400 mg/day</td>
</tr>
<tr>
<td></td>
<td>(Vit. B1 (thiamine))</td>
<td>100 to 300 mg/day</td>
</tr>
<tr>
<td></td>
<td>(Vit. B6 (pyridoxine))</td>
<td>50 to 100 mg/day</td>
</tr>
<tr>
<td></td>
<td>(Calcium + vit. D)</td>
<td>1.2 g Ca + 1.500 IU vit. D</td>
</tr>
<tr>
<td>Avoid copper supplements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from the Textbook of Nutritional therapies- Melvyn Wherbach
if history of flushing, urticaria or pruritus:

- Low tryptophan diet

Avoids excessive levels of serotonin in the blood => may normalise 7-OH-tryptamine kinestics in platelets where most of the blood serotonin is concentrated

Mechanism:
- flushing is due to excess serotonin in the blood;
- the exacerbations of skin pruritus is due to excess serotonin in blood and skin
Headaches: Foods

if patient with relative hypoglycemia (45% of them have headache):

Low carbohydrate (low sucrose) diet

Hypoglycemia = glucose drop > 20 mg% during OGTT

Headaches: Foods

STUDY 1: 11 patients + migraine => all improved on low carb diet


STUDY 2: 135 patients + Headache+ Hypoglycemia => 85% improved

Breast Cancer
Avoid
Coffee
Alcohol
Caffeine drinking $\Rightarrow$ ↑ mammary carcinoma incidence ↑ mammary development in mice

Increased incidence of DMBA carcinogen-induced mammary carcinoma’s in BD2F1 & C3H mice drinking caffeine in drinking water starting at 8 weeks of age to experiment termination. Mammary gland development was sign. increased in high caffeine BALB/c mice.


Michigan State University-USA
Alcohol => ↑ risk of breast cancer

Figure: Risk of breast cancer in daily alcohol drinkers & non-drinkers.

(Langnecker, JAMA, 1988, 260(5):652-6)
Use iodine (lugol) orally or locally on breasts
The growth rate of human thyroid carcinoma cell lines B-CPAP cells was unaffected by iodide, but was reduced by high concentrations of molecular iodine (100 and 500 microM). However, delta-iodolactone significantly reduced cell proliferation already with low concentrations (5 microM and 10 microM) & further in a dose-dependent manner up to 82%.

Human thyroid carcinoma cell lines FTC-133 and 8505C cells were unaffected by iodide, iodine or delta-iodolactone.

Molecular iodine (100 µM) inhibited growth of human breast cancer MCF 7 cells, from 100% to 83% but delta-iodolactone (1, 5 and 10 microM) dose-dependently decreased growth rate from 100% to 82% and 62%, respectively. The inhibition of growth was through apoptosis, and not necrosis, as the amount of apoptotic cells corresponded to the growth inhibition.

Iodine inhibits breast cancer cell proliferation

- Cytotoxicity of iodine on cultured human breast cancer cell lines, namely MCF-7, MDA-MB-231, MDA-MB-453, ZR-75-1, and T-47D, is reported in this communication.

- Iodine induced **apoptosis** in all of the cell lines tested, except MDA-MB-231

Iodine inhibits breast cancer cell proliferation


Use bio-identical progesterone = protective
Progesterone treatment ⇒ breast cancer premenopausal patients

Risk of breast cancer of women w/ benign breast disease

No treatment

Transdermal P

Oral P (+ or not transdermal P)

434

0.8

0.5

cohort study of 1150 premenopausal French women w/ benign breast disease followed up during > 10 yrs

Figure: these results suggest that the use of percutaneous progesterone topically applied in women on the breast for relief of mastalgia & benign breast disease at least does not cause deleterious effects in these women & that oral progestogen use causes a decrease in breast cancer risk.

Epithelial Proliferation in normal postmenopausal breast tissue

% PCNA (proliferating cell nuclear antigen)

- Placebo
- No HRT
- Estradiol alone
- Estradiol + Progesterone
- Estradiol + MPA
- CEE alone
- CEE + MPA

Foidart et al 1998: n = 40 postmenopausal women => biopsies
Hofseth et al 1999: n = 86 postmenopausal women => biopsies


Hofseth et al 1999: Hofseth LJ, Raafat AM, Osuch JR, Pathak DR, Slomski CA, Haslam SZ. Hormone replacement therapy with estrogen or estrogen plus medroxyprogesterone acetate is associated with increased epithelial proliferation in the normal postmenopausal breast. J Clin Endocrinol Metab. 1999 Dec;84(12):4559-65. Department of Physiology, Michigan State University, East Lansing 48824, USA (n = 86 postmenopausal women)
Most women had BC recurrence when on treatment. These findings indicated an unacceptable risk for women exposed to HRT in the HABITS trial, and the trial was terminated on Dec 17, 2003.

Holmberg L, Anderson H; HABITS steering and data monitoring committees. HABITS (hormonal replacement therapy after breast cancer--is it safe?), a randomised comparison: trial stopped. Lancet. 2004 Feb 7;363(9407):453-5. Uppsala University, Sweden
HRT + Testo = protective
Figure: Retrospective, observational study with 508 postmenopausal women receiving testosterone in addition to usual hormone therapy in South Australia. Breast cancer status was ascertained by mammography at their initiation of testosterone treatment & biannually thereafter. Average age at start of follow-up = 56.4 years, mean duration of follow-up = 5.8 yrs.

Use Selenium
### SELENIUM => breast-cancer

#### PROTECTS against breast-cancer?

<table>
<thead>
<tr>
<th>0 effect</th>
<th>Promotes?</th>
</tr>
</thead>
</table>

##### ↓ PLASMA Se in BC patients

- Mc Connell 1980, Schrauzer 1985 *(in Japan and USA)*, Krsnjair 1992 (- 25 to 34 % for 2nd + 3th quartile BC patients vs controls)

##### ↑ PLASMA Se → ↓ BC risk:

- Hardell 1993: in women > 50 years preventive effect against BC w/ increasing Se *(RR = 0.16 if Se > 12 mmol/l)*

##### ↑ FOOD Se → ↓ BC mortality

- Schrauzer 1977: mortality is strongly inversely related to annual dietary Se intake *(RR = 0.80)* in 27 countries

##### SE SUPPLEMENTS INHIBIT BC in rodents:

- Lane 1990: ↑ inorganic Se intake => ↓ incidence of DMBA-induced BC in mice

- Horvath 1983: Se alone *(93 → 77 %)* & (synergestically) reinforced by vit. E *(93 → 60 %)* inhibits DMBA-induced BC in rats

- Thompson 1991: inhibit synergestically w/ vit. E on 1-methyl-1-nitrosamine-induced BC in mice

- Ip 1981: a continuous intake of Se is necessary to achieve a maximal inhibition response on mammary neoplasia of rodents

- Cement 1986: selenite = strongest protective effect, nullified by ↑ vit. C intake (makes selenite by reduction not available for uptake)

- Shamberger 1976: no diff. in serum Se between BC patients & controls

- Meyer 1987: no diff. in erythrocytic Se
Figure: effect of selenium &/or vit. E supplementation in DMBA-induced mammary carcinogenesis

(Horvath et al, Cancer Research, 1983, 43:5335-5341)
## Breast cancer

<table>
<thead>
<tr>
<th>Diet</th>
<th>Micronutrient (efficacy supported by controlled human trial)</th>
<th>Dose (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid caffeine</td>
<td>Iodine</td>
<td>1-2 drops of lugol (= 1 iodoral caps)</td>
</tr>
<tr>
<td>Avoid alcohol</td>
<td>Vitamin A</td>
<td>50,000 IU/day</td>
</tr>
<tr>
<td>Avoid sweets</td>
<td>Vit. C</td>
<td>0.5-1 g/day</td>
</tr>
<tr>
<td></td>
<td>Vitamin D</td>
<td>4000 IU/day</td>
</tr>
<tr>
<td></td>
<td>Vit. E</td>
<td>400 IU/day</td>
</tr>
<tr>
<td></td>
<td>Selenium</td>
<td>200 mg/day</td>
</tr>
<tr>
<td></td>
<td>Co Q10</td>
<td>100 mg/day</td>
</tr>
</tbody>
</table>

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