



Dr Hayden Waterham

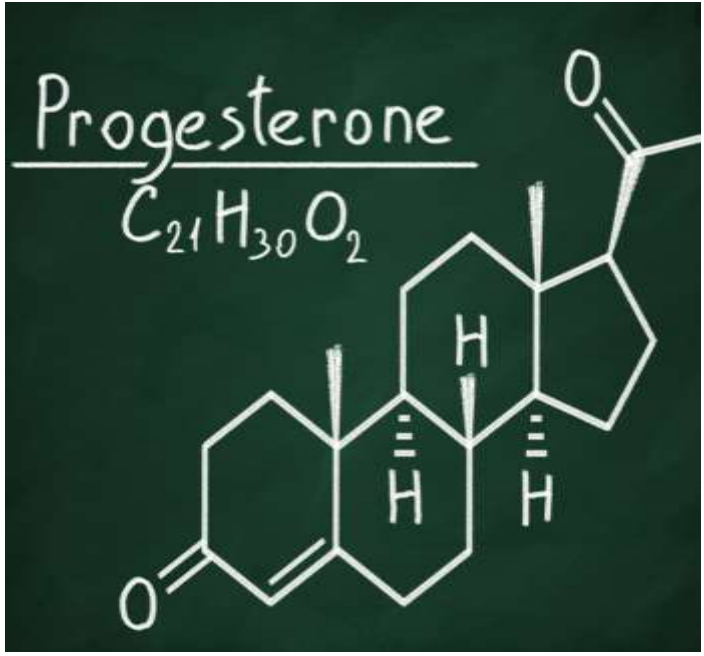
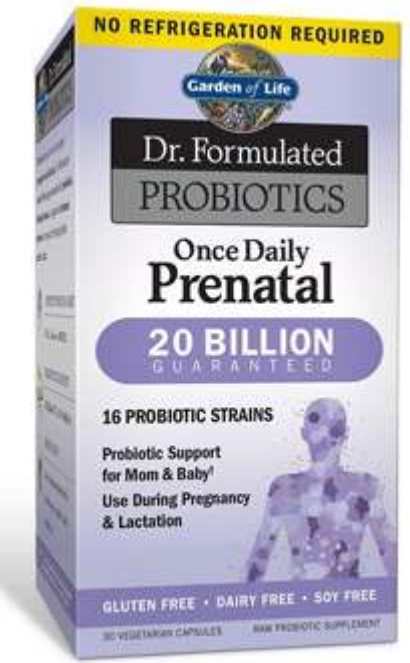
Obstetrician & Gynaecologist

MBBS (Hons) FRANZCOG DDU



ST VINCENT'S
PRIVATE HOSPITAL
MELBOURNE

Complementary medicines in pregnancy





Complementary medicines

- Complementary medicines
 - \$3.5 billion per year in Australia in 2017

Complementary Medicines Australia. In good health: Complementary medicines industry survey. Mawson, ACT: CMA, 2014.

- Pharmaceutical Benefits Scheme
 - \$1.8 billion in co-payments
 - \$12.8 billion total cost

Australian Institute of Health and Welfare 2018. Australia's health 2018. Australia's health series no. 16. AUS 221. Canberra: AIHW.

Who uses complementary medicines?



- Younger
- Well educated
- Female

52% of pregnant women use CAM in Australia which EXCLUDES prenatal multivitamins.



Complementary vs Alternative

- Complementary is with Western medicine
- Alternative is in replacement of Western medicine
- Age of medical pluralism
- Prescribers are “Doctors”
 - Naturopathy
 - Chiropractic
 - Homeopathy



Why Complementary medicines?

- **Self determination**

“Something you have control over, something that you have decided to do for your health rather than something that you’ve just been instructed to do.”

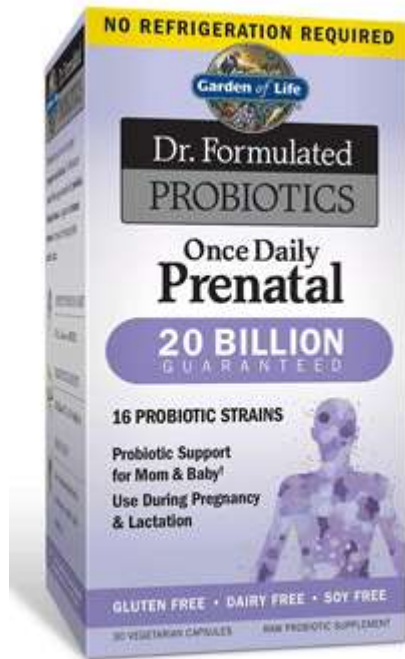
- **Connected to complementary providers**

“I felt nurtured. I felt I could trust her, I felt like she knew me as a person and she felt like a friend as well. I felt really understood. I felt a definite connection in term of understanding me as a person my emotions and feelings.”

- **Perceived safety**

“It is just that herbal remedies have been around for sort of much, much longer. They have been used for thousands of years and you kind of feel that they must be safer, they haven’t been tampered within the same way as medicines.”

Talking points



Omega - 3



- Omega-3 fats contain both active ingredients
 - docosahexaenoic acid (DHA)
 - eicosapentaenoic acid (EPA)
- Omega-3 fatty acids reduce potency of prostaglandins which can trigger preterm birth
- Does taking Omega -3 decrease preterm birth?

Omega -3 and preterm birth



- Multicentre double blind randomized trial
 - In 5517 pregnant women less than 20 weeks
 - Randomised to Fish oil 900mg or Vegetable oil
 - Did not change
 - Preterm delivery
 - Adverse events (HTN, PE, IUGR, Stillbirth)
 - Neonatal outcomes
 - This group had higher baseline levels of n-3 LCPUFA levels prior to randomisation



Omega -3 and preterm birth



- Cochrane database of 70 randomized trials
 - Nearly 20,000 women overall
 - Lowers preterm birth (<34 w) by 42% (46/1000 to 27/1000 births)
 - Lowers preterm birth (<37w) by 11% (134/1000 to 119/1000 births)
- Conclusion
 - Optimum daily supplement containing between 500 and 1000 mg of long-chain omega-3 fats (containing at least 500 mg of DHA) starting at 12 weeks of pregnancy



Omega 3 conclusions



- Mixed results
 - showing a benefit (Meta analysis)
 - No benefit (The largest single randomised trial (Australian))
- General advice
 - For women with the highest risk of preterm birth
 - For women who are likely to be nutritionally deficient in fish oil
 - For women who have a strong history of atopic/asthma



Recommend a fish oil supplement containing between 500 and 1000mg of long-chain omega-3 fats (containing at least 500mg of DHA) starting at 12 weeks of pregnancy

Bugs and Health

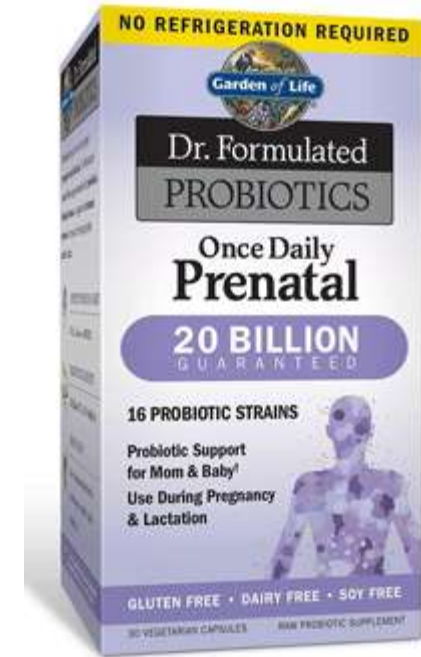


"All disease begins in the gut"

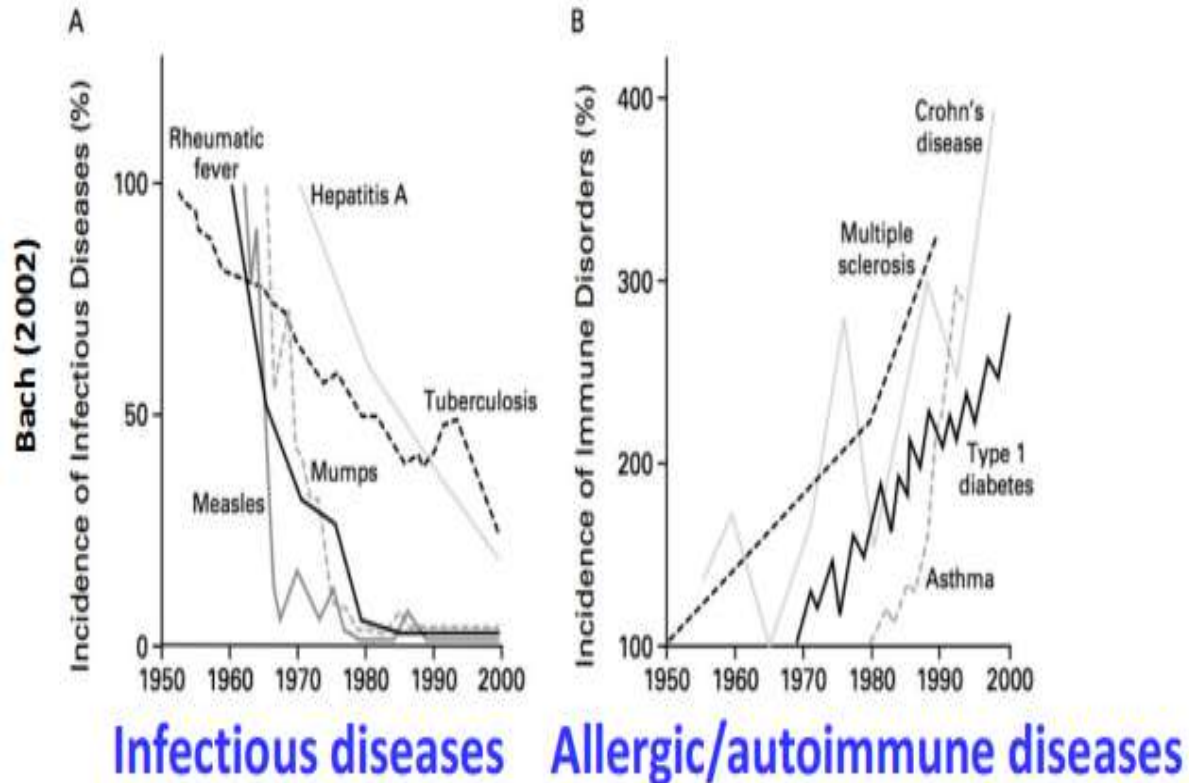
Hippocrates, circa 340 BC



<u>Body region</u>	<u>Numbers</u>
Mouth (total)	10^{10}
Lungs (est.)	$\sim 10^9/\text{ml}$
Breastmilk (est.)	$\sim 10^9/\text{L}$
Skin (total)	10^{12}
GI tract (total)	10^{14}
Vagina	$10^9/\text{ml}$



Bugs and Health



GI tract: irritable bowel disease (IBD), ulcerative colitis, Crohn's disease, GERD, necrotizing enterocolitis (NEC) obesity, metabolic syndrome, type 1 and type 2 diabetes

Heart: cardiovascular diseases

Brain/mental: multiple sclerosis, epilepsy, Alzheimer's, autism, psychiatric disorders



Cancers: Hodgkins' lymphoma, liver, gastric esophageal, colorectal, cervical

Lungs: asthma, cystic fibrosis

Skin: eczema, psoriasis, acne, rheumatoid arthritis

Vagina: bacterial vaginosis, preterm birth

Liver: non-alcoholic liver disease (NAFLD), alcoholic steatosis



Probiotics in pregnancy

- Probiotics Do NOT

- Modify vaginal microbiota and reduce BV - a risk factor for preterm birth

Effects of oral probiotic supplements on vaginal microbiota during pregnancy: a randomised, double-blind, placebo-controlled trial with microbiome analysis. BJOG. 2019 Apr 01.

- Prevent GDM in obese pregnant women

Probiotics for the Prevention of Gestational Diabetes Mellitus in Overweight and Obese Women: SPRING Double-Blind Randomized Controlled Trial. Diabetes Care. 42(3):364-371, 2019 03

- Prevent preterm birth or adverse neonatal outcomes

Pregnancy outcomes in women taking probiotics or prebiotics: a systematic review and meta-analysis. BMC Pregnancy & Childbirth. 18(1):14, 2018 01 08]



Probiotics in pregnancy

- Conclusions

There is no currently available evidence that supports the use of Probiotics to prevent pregnancy related morbidity

However, women who take a probiotic for other perceived health benefits may continue to do so



Progestogens (Progesterone)

- Is no more or less natural than *Lactobacillus rhamnosus*
- Produced from the corpus luteum (until 7+ wks) then placenta
- Critical to maintain the pregnancy
 - It is pro-gestation!
 - Mifepristone (progesterone receptor antagonist) will induce abortion
 - Withdrawal may be part of the mechanism initiating labour



Progestogens (Progesterone)

- Progesterone supplementation DOES NOT
 - Prevent recurrent miscarriage in an unselected population
 - Prevent preterm birth in women without preterm risk factors with a long closed cervix (>25mm) on cervical screening
- Progesterone supplementation DOES
 - Improve the livebirth rate in women who have IVF
 - Reduce miscarriage and preterm birth in women with a short cervix

Progestogens (Progesterone)



- Progesterone supplementation MAY**
 - Reduce miscarriage and preterm birth in women who have had a preterm birth even if the cervix is long
 - prevent preterm birth in women who have had a preterm birth in a twin pregnancy
 - Prevent preterm birth in women who have had a cervical stitch insertion

**Norman JE et al. Vaginal progesterone prophylaxis for preterm birth (the OPPTIMUM study): a multicentre, randomised, double-blind trial. *Lancet*. 2016;387(10033):2106. Epub 2016 Feb 24.

**Crowther CA et al. Vaginal progesterone pessaries for pregnant women with a previous preterm birth to prevent neonatal respiratory distress syndrome (the PROGRESS Study): A multicentre, randomised, placebo-controlled trial. *PLoS Med*. 2017;14(9):e1002390. Epub 2017 Sep 2



Progestogens (Progesterone)

Helpful questions and referral guidelines

- What does at risk of preterm birth mean?
 - Previous spontaneous birth at ≤ 34 weeks
 - Cervical length ≤ 25 mm
 - Congenital uterine anomaly
 - Positive fetal fibronectin test combined with
 - A history of preterm birth
 - A second trimester loss
 - Repeat cervical procedures to treat abnormal smears (Laser, LLETZ, Cone)



Progesterone in pregnancy

- Conclusions

If the patient has risk factors for preterm birth or returns from an ultrasound with a short cervix think about progesterone

Call a tertiary hospital and ask to speak with the on call registrar about referral to a preterm labour clinic

Multivitamins



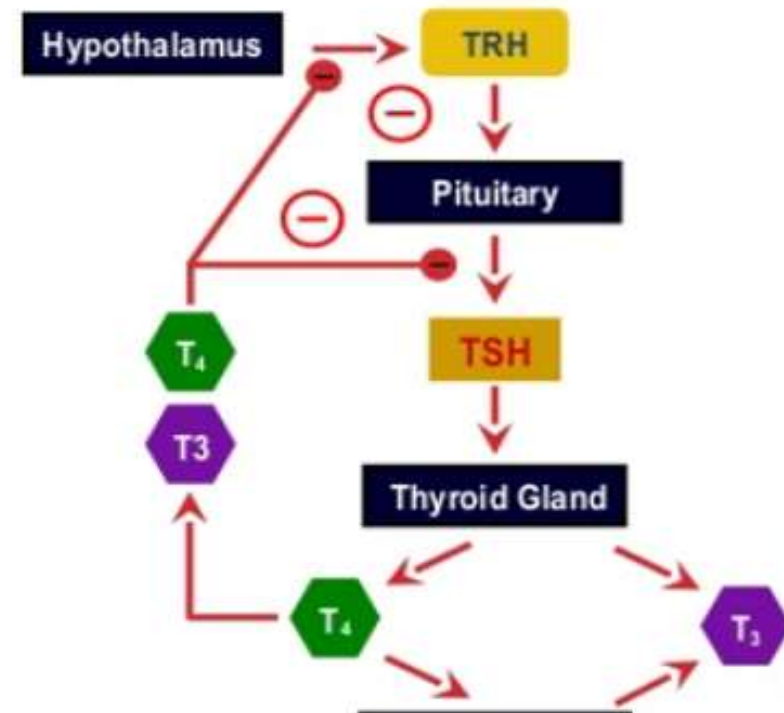
- The two most important ingredients
 - Folate (vitamin B9) or its synthetic form folic acid
 - Iodine
- Folic acid supplementation prevents neural tube defect
 - 6 cases in 2391 unsupplemented women
 - 0 cases in 2471 supplemented women



Prevention of the first occurrence of neural-tube defects by peri conceptional vitamin supplementation.
Czeize et al. N Engl J Med. 1992;327(26):1832.27.

Multivitamins

- Iodine supplementation
 - RDI 250ug
 - Crucial for thyroid production
 - TSH does not cross the placenta
 - T3 does not cross the placenta
 - T4 crosses the placenta and is critical for fetal brain development
 - Fetus converts maternal T4 to T3





Why do thyroid hormones matter?

Pregnant women with abnormal thyroid function have a worse outcome

Pregnant women Overt hypothyroidism and are at risk for

- Increased miscarriage/preterm labour/placental abruption
- Increased hypertension and pre eclampsia
- Children born to women with overt hypothyroidism have lower IQs (7 points)

Why do thyroid hormones matter?

Remember:
TSH 4-10
Normal T4



Pregnant women with Subclinical hypothyroidism (SCH)

- The data is less clear despite >100,000 patients in RCTs
 - At risk for miscarriage
 - No change in the risk for abruption/preterm birth/preeclampsia
 - No change in the IQ of children born to women with SCH
- Little consensus among profession bodies
- ?May be dependent on thyroid antibody status



Multivitamins in pregnancy

- Conclusions

Recommend women who are trying to conceive and women who are pregnant take a multivitamin containing at least 150ug of Iodine and 400ug of folic acid





Conclusions

- Encourage our patients to consider EVIDENCE and COST
- Promote healthy eating
 - Fish not fish oil
 - Pro/Prebiotic foods and high fibre diet
- Identify groups who may benefit from supplements
 - Nutritionally deficient
 - Risk of preterm birth

Questions