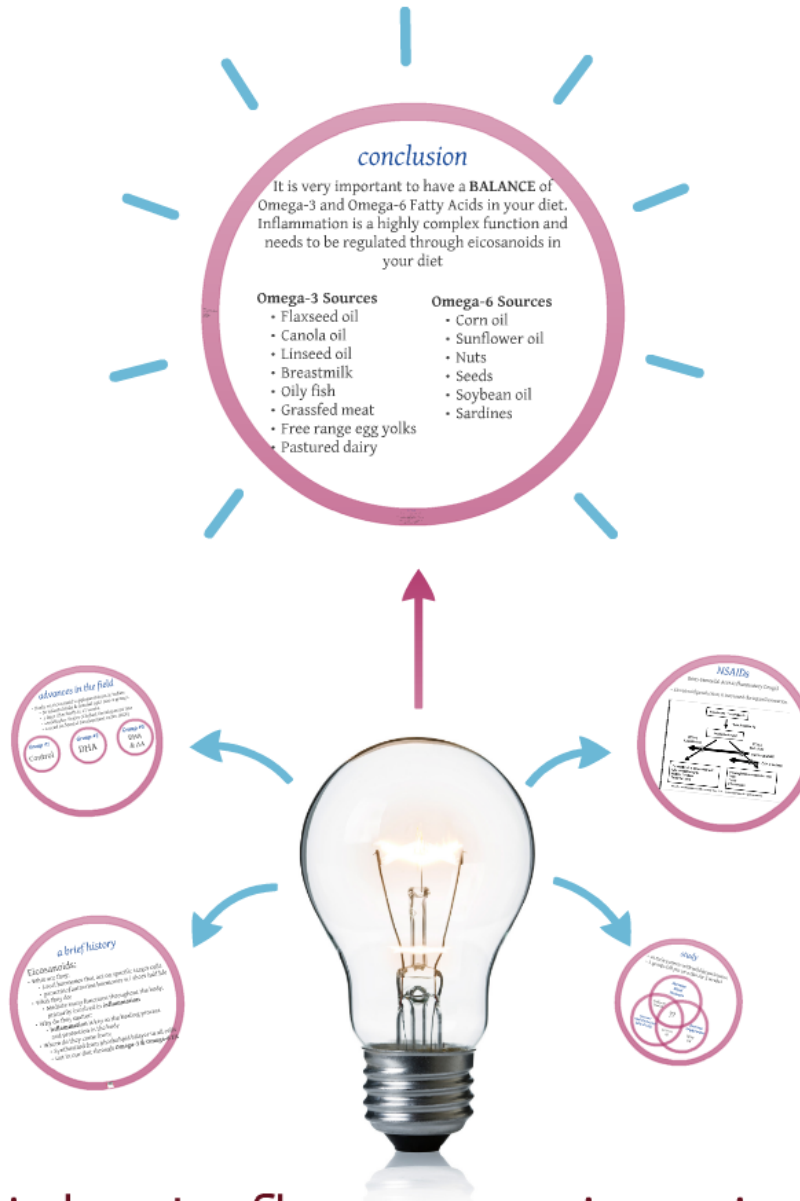


Eicosanoids: Inflammation in the Body

Stephanie Barbakoff, Jenessa Dyke, Cameron Penta, Grant Schoen



Eicosanoids: Inflammation in the Body

Stephanie Barbakoff, Jenessa Dyke, Cameron Penta, Grant Schoen

a brief history

Eicosanoids:

- What are they:
 - Local hormones that act on specific target cells
 - paracrine/autocrine hormones w/ short half life
- What they do:
 - Mediate many functions throughout the body, primarily involved in **inflammation**
- Why do they matter:
 - **Inflammation** is key in the healing process and protection in the body
- Where do they come from:
 - Synthesized from phospholipid bilayer in all cells
 - Get in our diet through **Omega-3 & Omega-6 FA**



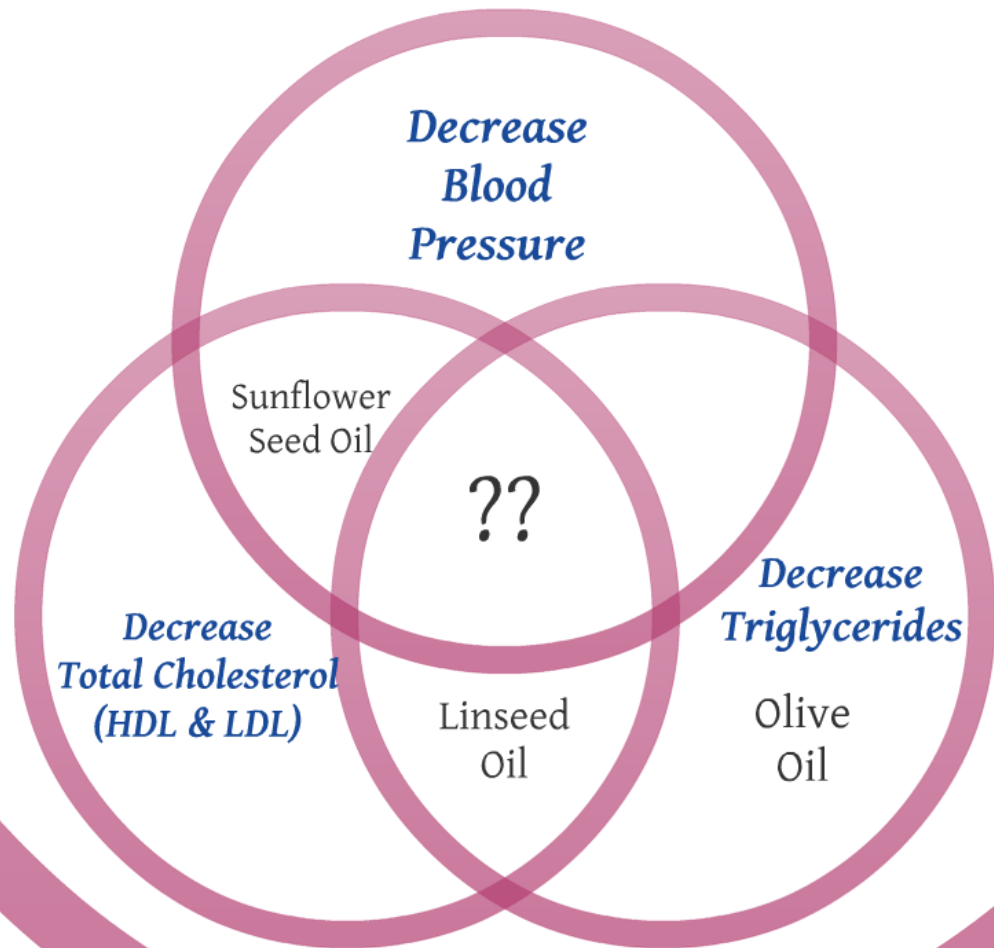
Pro-inflammatory



Anti-inflammatory

study

- 44 male patients with mild hypertension
- 3 groups (all put on a diet for 2 weeks)



*Decrease
Blood
Pressure*

Sunflower
Seed Oil

??

*Decrease
Total Cholesterol
(HDL & LDL)*

Linseed
Oil

*Decrease
Triglycerides*

Olive
Oil





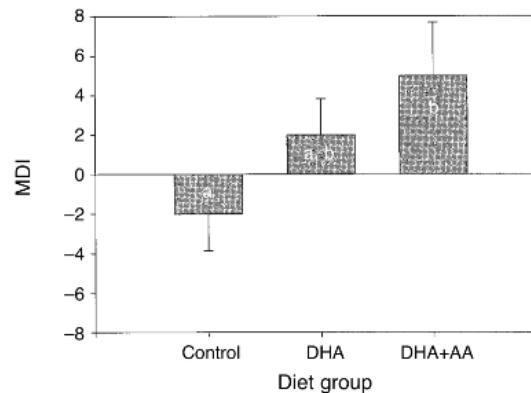
advances in the field

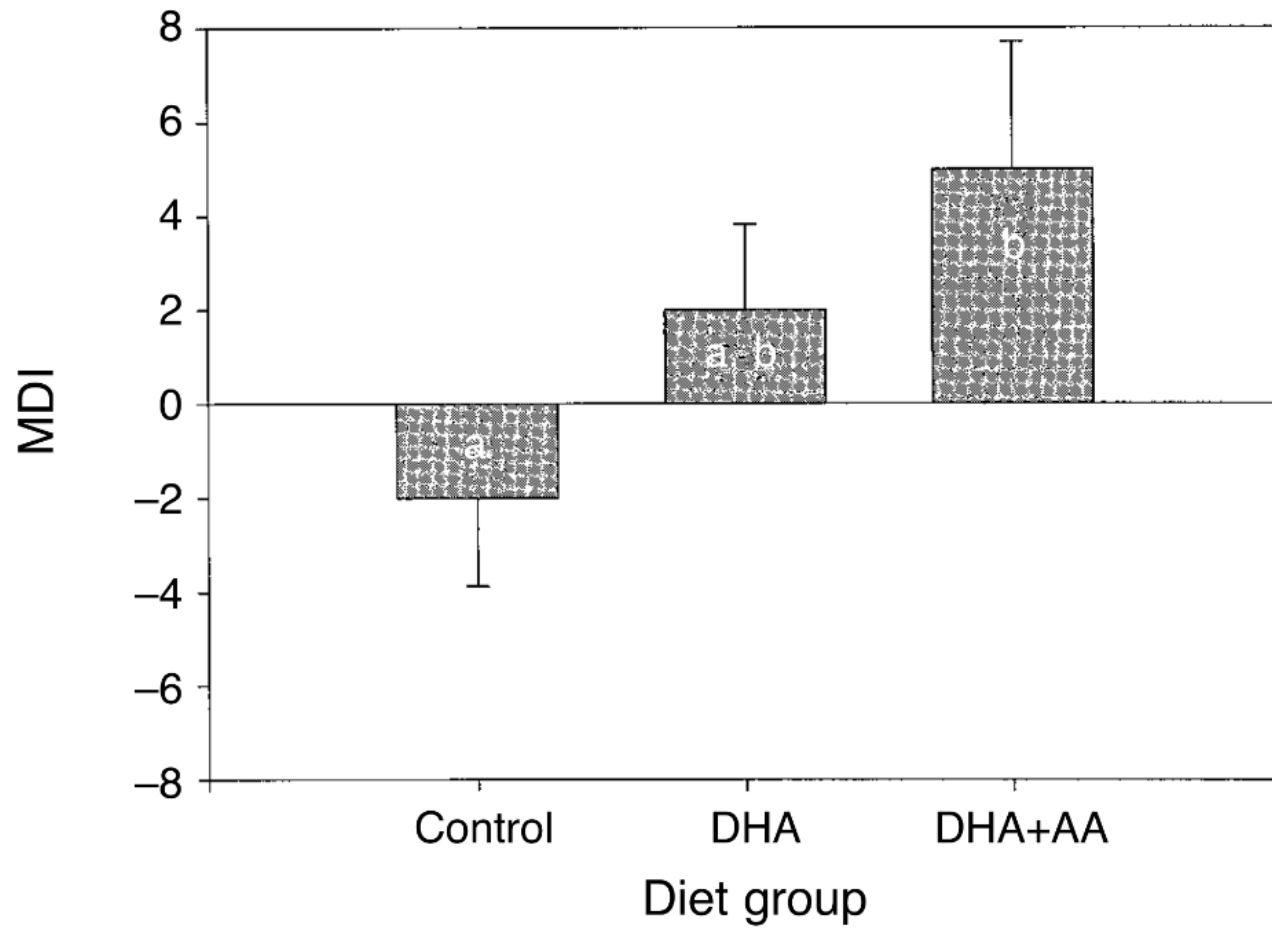
- Study on eicosanoid supplementation in babies
 - 56 infants (male & female) split into 3 groups
 - 5 days after birth to 17 weeks
 - used Bayley Scales of Infant Development test
 - scored on Mental Development Index (MDI)

Group #1
Control

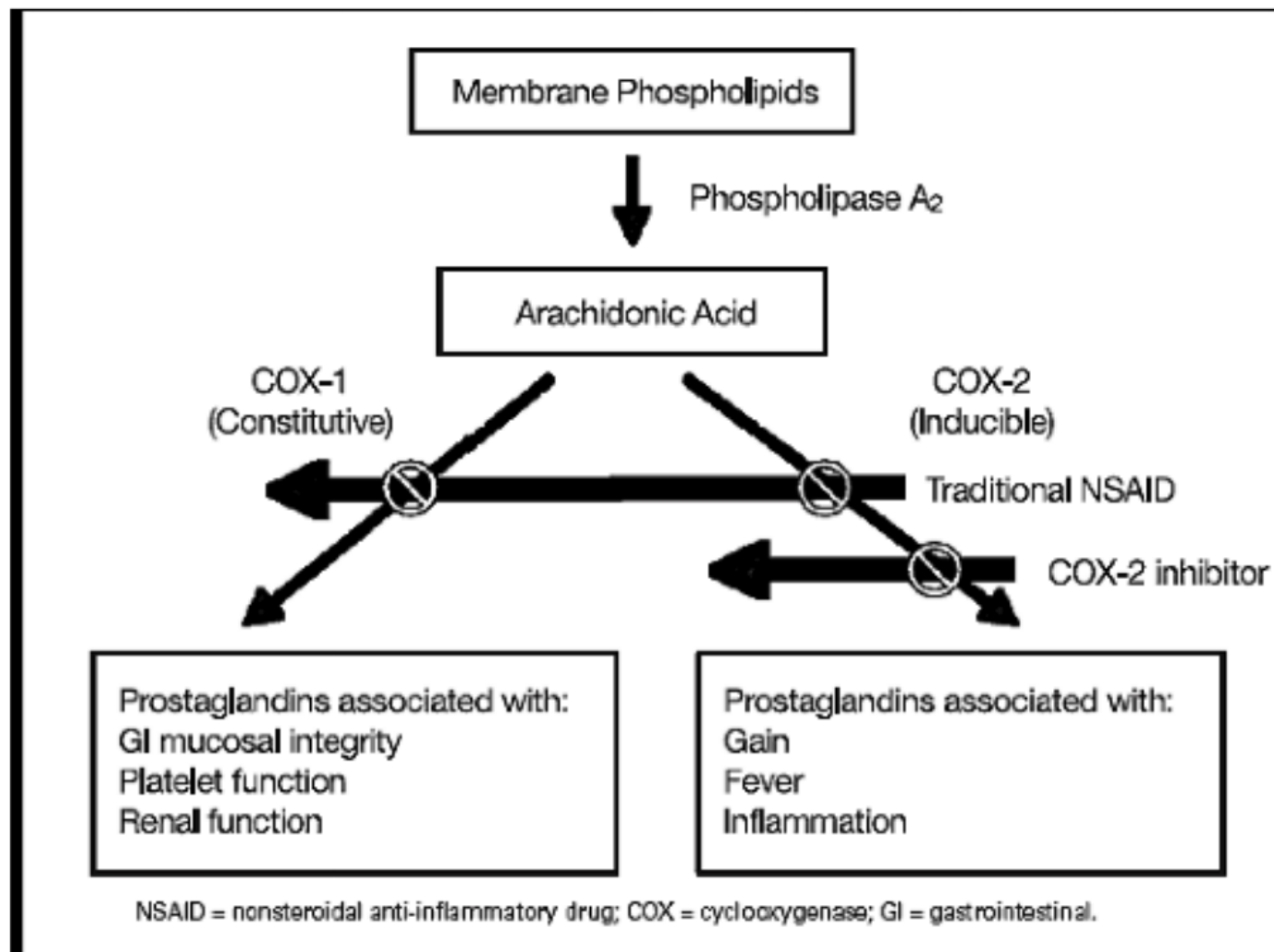
Group #2
DHA

Group #3
DHA
& AA





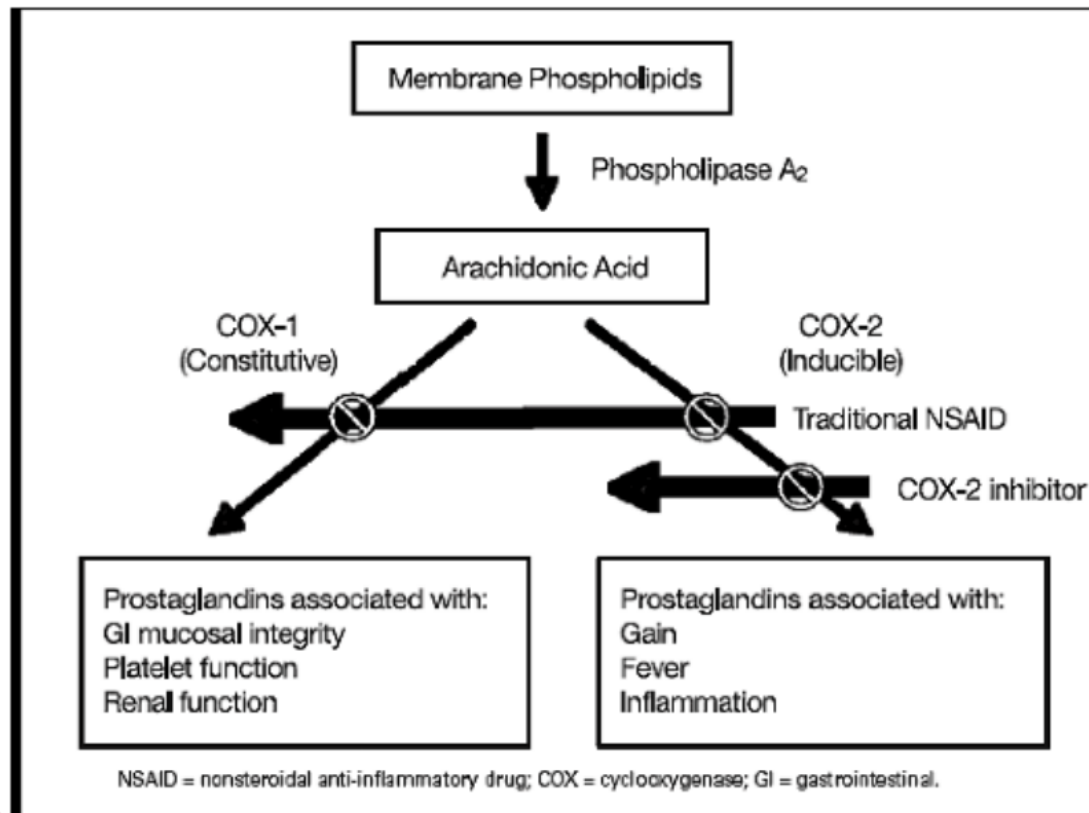
- Eicosanoid production is increased during inflammation



NSAIDs

(Non-Steroidal Anti-Inflammatory Drugs)

- Eicosanoid production is increased during inflammation



conclusion

It is very important to have a **BALANCE** of Omega-3 and Omega-6 Fatty Acids in your diet. Inflammation is a highly complex function and needs to be regulated through eicosanoids in your diet

Omega-3 Sources

- Flaxseed oil
- Canola oil
- Linseed oil
- Breastmilk
- Oily fish
- Grassfed meat
- Free range egg yolks
- Pastured dairy

Omega-6 Sources

- Corn oil
- Sunflower oil
- Nuts
- Seeds
- Soybean oil
- Sardines

Quiz:

What is the main function eicosanoids are associated with?

- A. Grounding
- B. Movement
- C. Inflammation
- D. Haircuts

Works Cited

http://eurheartjsupp.oxfordjournals.org/content/3/suppl_D/D42.full.pdf

<http://www.acnp.org/g4/GN401000059/Default.htm>

Birch, E. E., Garfield, S., Hoffman, D. R., Uauy, R. and Birch, D. G. (2000), A randomized controlled trial of early dietary supply of long-chain polyunsaturated fatty acids and mental development in term infants. *Developmental Medicine & Child Neurology*, 42: 174–181. doi: 10.1111/j.1469-8749.2000.tb00066.x

<http://www.webmd.com/diet/healthy-kitchen-11/omega-fatty-acids?page=1>

<http://www.ncbi.nlm.nih.gov/pubmed/1972963>

<http://www.ncbi.nlm.nih.gov/m/pubmed/17305573/>