Drug Interactions: Aspirin

"If drugs make a person sick, why would they make a sick person well? "Dr. Abram Hoffer (studied Vitamin C and cancer with Dr. Linus Pauling)

Drug		Contraindications (Nurse's Drug Handbook 6th ed)
Aspirin	Acetylsalicylic acid Reduces pain by inhibiting prostaglandin formation	Bruise easily **Increases uric acid output** and urine proteins Drug-herbs: *increased bleeding risk with cayenne, garlic, ginger.*

Reference: Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies (Stargrove et al)

The following discusses the possible adverse or beneficial interactions between drugs, nutrients, and herbs:

Aspirin interactions with (adverse/beneficial): Calcium, Folic acid, Ginger, Iron, Melatonin, Milk Thistle, Omega-3 fatty acids, Policosanol, Potassium, Vitamins B_2, B_3, C, E, K, Zinc

Aspirin and Calcium

- Depending on the "type" of aspirin, there is an indication that salicylic acid analogs *can induce hypocalcemia* (decreased levels of calcium).

Aspirin and Folic Acid

- Aspirin can *inhibit folate-dependent enzymes and interfere with folate metabolism.* Increased urinary excretion of folate has been associated with chronic use in patients with rheumatoid arthritis. Administration of exogenous folic acid may compensate for and reverse these adverse effects on endogenous folate metabolism.

Aspirin and Ginger

- It appears that ginger can be safely utilized at therapeutic doses along with antiplatelet and anticoagulant medications.

Aspirin and Iron

- Aspirin's activity in inhibiting the effects of cyclooxygenase (COX) extends beyond those functions involved in inflammatory responses. In the stomach the enzyme's products build bicarbonate and mucus buffers against stomach acidity, without which the risk of ulceration can increase 20-fold. *GI bleeding caused by aspirin results in iron loss*.

Aspirin and Melatonin

- Inhibition of prostaglandin synthesis is an intended effect of non-steriodal anti-inflammatory drugs (NSAIDs). Prostaglandins are involved in melatonin synthesis and sleep, as well as thermoregulation, in such a way that NSAID administration may inhibit melatonin synthesis. This activity provides a mechanism by *which NSAIDs may alter sleep patterns.*

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Aspirin and Milk Thistle

- Milk thistle is widely used in various situations of compromised liver functions. Co-administration with hepatotoxic (liver) drugs reduces biochemical and histopathological markers of drug-induced hepatocellular toxicity. Potential beneficial interaction, not requiring professional management.

Aspirin and Omega-3 Fatty Acids

- Omega-3 fatty acids could theoretically increase the anti-platelet aggregation effects of aspirin and other antiplatelet agents in a bimodal fashion, that is beneficial with atherosclerosis and risk of clotting in a cerebral or coronary vessel, but problematic with bleeding disorders or in patients taking oral or injectable anticoagulants.

Aspirin and Policosanol

- In high doses, policosanol can alter prostaglandin synthesis, lower platelet aggregation induced by AA and inhibit proaggregatory TXA_2 generation induced by collagen. Concomitant use of policosanol and antiplatelet medications such as aspirin may produce an additive interaction that, if clinically significant, could be beneficial or potentially detrimental, depending on the clinical circumstances (i.e., whether there is risk of clotting or bleeding).

Aspirin and Potassium

- *High dose aspirin may cause hypokalemia* (not enough potassium). Clinically significant adverse effects are improbable in otherwise un-medicated individuals with a well- balanced diet rich in fruits and vegetables, but are possible in the context of other risk factors, such as declining function with aging, diet, poor in nutrients and high in processed foods and with potassium-depleting medications.

Aspirin and Vitamin B_2

- Concurrent intake of aspirin and riboflavin has been reported to cause gastric intolerance in some patients. *Given the known adverse effects of aspirin, the role of riboflavin as the predominant aggravating factor is doubtful.*

Aspirin and Vitamin B_3

- Aspirin or other anti-inflammatory agents can be administered to reduce cutaneous flushing and other unwanted reactions associated with niacin intake.

Aspirin and Vitamin C

- *It is prudent to suggest the potential protective value of supplementing with 200-500 mg vitamin C per day to offset the risks of damage to the GI mucosa and micro-hemorrhage.*

Aspirin and Vitamin E

- Pending further research, combined use of aspirin and vitamin E, particularly as d-alpha-tocopherol or other naturally occurring forms, presents a potentially valuable asset in the emerging repertoire of pharmacological and behavioral tools for the prevention of excess coagulation and reduction of the incidence of hemorrhagic stroke, especially among individuals at increased at risk for TIA's. Nevertheless, there is a critical need to remain cognizant of the

potentially dangerous increased tendency to bleed, which may represent a manifestation of vitamin E toxicity in some cases.

Aspirin and Vitamin K

- Long-term use of aspirin is supported by a broad base of evidence for reducing cardiovascular risk, *but carries numerous adverse effects, including the possibility that it may increase the need for vitamin K.* Conversely, vitamin K provides significant potential benefit in prevention of cardiovascular disease, but concern has been raised that increased intake may interfere with blood-thinning function of prophylactic aspirin. There is no well-known interaction between platelet function and vitamin K.

Aspirin and Zinc

- *It is reasonable to predict individuals using aspirin chronically can have a reduced serum and urinary zinc.*

Other Notes

Acetyl salicylic acid can cause hemorrhaging. Salicylic acid (SA) is found in most fruits and vegetables as a need for insect and disease protection in plants – anti-clotting, anti-inflammatory without side effects of stroke, GI bleeding

- Organic vegetables have 6 times more SA than non-organic
- Wean yourself off of aspirin by eating lots of vegetables.

DO NOT STOP TAKING ASPIRIN ALL AT ONCE.