UNIVERSITY of WESTERN STATES
College of Chiropractic

SUMMARY SHEET: OTC NSAIDS and Analgesics

(Revised 6/29/10)

Checklist of Seven Steps

- ✓ **STEP 1:** Decide whether home care should include an analgesic or anti-inflammatory drug.
- ✓ **STEP 2:** Consider whether there is an effective botanical or nutritional supplement that may be used initially. *(See below.)*
- ✓ **STEP 3:** Decide if the use of an NSAID (or acetaminophen) is appropriate for the patient's specific condition. *(See below.)*
- ✓ **STEP 4:** Decide if an NSAID (or acetaminophen) is appropriate for the individual patient.
- ✓ **STEP 5:** Choose the appropriate treatment parameters based on the patient and the treatment goals.
- ✓ **STEP 6:** Inform the patient of risks. *(See below.)*
- ✓ **STEP 7:** Monitor patient response.

STEP 2: Botanical options include Devil's Claw, (*Harpagophytum Procumbens*) in a standardized daily dose of 50 mg or 100 mg harpagoside and Willow Bark (*Salix Alba),* in a standardized daily dose of 120 mg and 240 mg of salicin (a standardized daily dose of 240 mg reduced pain about the same as a daily dose of 12.5 mg of Vioxx).See protocol, p. 2 for other options.

STEP 3: NSAID Recommendations

Type of Injury	NSAID Impact	Comments
Bone: fracture	Contraindicated	Probable harmful effects on bone formation especially in the first weeks.
Bone: stress fracture	Contraindicated	Probable harmful effects on bone formation especially in the first weeks.
Ligament: acute sprain (e.g., appropriate for mild to moderate knee sprain)	Possibly and potentially useful in the short-term	Reduces pain and swelling Faster return to athletic activities May cause long-term residual laxity Short-term use (<5 days)
Low back pain, acute with sciatica	May not be useful	No proven efficacy. Often ineffective if there are nerve root symptoms.
Low back pain, acute without sciatica	Possibly and potentially useful	Strong evidence NSAIDs are more effective than placebo for acute LBP (small effect size). Acetaminophen recommended as a basic first choice.
Low back pain, chronic	Potential limited usefulness	There is only moderate evidence supporting the effectiveness of NSAIDs for management of chronic low-back pain. Acetaminophen may be better first choice because of side effects.
Muscle: acute muscle tear	Probably not useful and perhaps not indicated	Inhibits protein synthesis and inflammatory reaction.
Muscle: contusion	Potentially useful	In case of deep contusion or history of myositis ossificans
Osteoarthritis	Possibly and potentially useful.	Consider acetaminophen as first choice. RCTs suggest topical NSAIDs are superior to placebo, but only in the first two weeks of treatment.
Rheumatoid arthritis	Possibly and potentially useful	Start with analgesic; combining acetaminophen with an NSAID may reduce NSAID dose.
Tendon: overuse tendinopathy	Probably not useful	Short term analgesic effect only (perhaps more so in shoulder conditions than elbow, patellar or Achilles tendinopathy; no benefit for healing
Tendon: true acute tenosynovitis/bursitis (e.g., DeQuevain's)	Possibly and potentially useful	Reduces acute inflammations Helps recovery

Choosing an OTC

- NSAIDs have equal or slightly greater effectiveness than non-opioid analgesics in reducing pain, but with more common serious potential side effects. **An analgesic such as acetaminophen (e.g., Tylenol) is generally suggested as the drug of first choice unless it is contraindicated.**
- Acetaminophen and an NSAIDs may also be combined for acute pain management.
- **Clinical Warning:** Combinations of NSAIDs (*not* in combination with acetaminophen) often increase risk of adverse reactions. **Using multiple NSAIDs doubles the risk for GI bleeding.**

STEP 4: NSAID contraindications

Patients in the following categories should avoid all use of NSAIDs unless otherwise specified.

- **Allergy to aspirin, iodides, or other NSAIDs.** A patient who is allergic to aspirin may also be allergic to NSAIDs.
- **Pre-existing renal disease**
- **Active ulceration or chronic inflammation of either the upper or lower gastrointestinal tract.** If a patient is at a particularly high risk for ulcers and yet may benefit from the therapeutic effect of NSAIDs, consider referral for combination therapy of NSAIDs and prophylactic treatment for ulcers.
- **Pregnancy**
- **Use of warfarin, Coumadin® or other anti-coagulation medications.** Because of their anti-clotting action, NSAIDs should never be used by a patient who is taking blood thinners, such as Coumadin or warfarin. Simultaneous use of aspirin and ibuprofen may attenuate the antiplatelet effect of aspirin, making it less useful for cardioprotection.

NSAID high risk patients (*See Table II to calculate risks for an individual patient.)*

- History of abdominal pain or gastroesophageal reflux disease
- (GERD) (GI bleeding, 7-fold increase in risk)
- Diabetes (renal failure)
- Hypertension (exacerbation)
- Liver disease (hepatitis)
- Congestive heart failure (exacerbation)
- Lupus (renal failure)
- Asthma (bronchoconstriction)
- Renal artery stenosis (renal failure)
- Age greater than 75 years (GI bleeding, renal failure)
- History of peptic ulcer disease (GI bleeding)
- Alcohol use (GI symptoms, liver disease)
- Corticosteroid therapy (GI symptoms)
- Smoking (GI symptoms)

Acetaminophen high risk patients

- Liver disease
- Chronic alcohol use
- Hypersensitivity to drug (including possible cross reaction with allergy to aspirin)
- Renal impairment 9epscially fro long term use)
- G6PD deficiency
- PKU (phenylalanine-containing forms)

STEP 5: Summary of drug & dosage recommendations

- Recommend NSAID dosage based on desired effect (analgesic or anti-inflammatory).
- Do not exceed daily maximum dose. (*See Table IV.*)
- Adjust dose based on size and age of the patient. Lower doses for pediatric and geriatric patients. (*See Table V.*)
- Begin with a smaller dose and increase only if necessary – the higher the dose of the NSAID, the greater the chance for adverse effects.
- **Warning:** The daily recommended limit for acetaminophen has been reduced to 3,250 milligrams per day. Beware of hidden amounts of acetaminophen and NSAIDs in other OTCs. (See tables VI and VII).

STEP 6: Clinic Policy

All patients on OTC NSAIDs, whether recommended by our clinics or not, are to be given a patient information sheet and a PARQ. The following FDA cautions must be part of the PARQ conference when recommending NSAIDs:

- GI toxicity is a potentially serious adverse effect. (*See Table II. Assessment Tool to Determine Risk of NSAID-Induced GI Toxicity.*)
- GI toxicity must be identified as potentially life-threatening.
- List symptoms of GI toxicity
- In the event of serious side effects, the patient should stop taking the medication and contact the clinician. Rare cases in which there are severe side effects, go to an emergency room or urgent care center. **Severe side effects include rectal bleeding, hematemesis (including vomitus appearing as "coffee grounds"), abdominal pain, dizziness, syncope and tachycardia.**
- Renal toxicity should be identified as a potential side effect.
- Smoking and/or alcohol consumption will increase the risk of side effects.

NSAID Side Effects

1. Gastrointestinal
2. Renal
3. Pulmonary
4. Impediment of healing time
5. Female infertility
6. Drug Interactions
7. Cardiovascular
8. Hearing loss