

drug class to produce grogginess and foggy thinking. Sleeping medication is often needed because pain disrupts sleep, but these have their drawbacks also.

However, *even if* there was a perfect drug, without side-effects and which also was dirt-cheap, delivered to your doorstep by carrier pigeon, who wants to have to take something several times a day every day of the rest of their life?

There does exist, though, an effective, natural, permanent, and *drugless* treatment for pain called "prolotherapy." Best of all, it is not something that has to be repeated and repeated and repeated. After four-to-six treatments over a 3-4 month period, you are done, "repaired" as it were (or at least, until you go and re-injure yourself).

*Prolotherapy* is an American invention, like Jazz. It came about in the 1940's through the dedicated efforts of a small group of physicians in the Chicago area, headed up by Drs. Hemwall and Hackett. It is now in daily use planetwide, even in Third World countries.

The treatment involves injecting (using a thin needle through anesthetized skin, so don't be a sissy) a small quantity of an osmotic or chemical irritant solution onto the surface of bone, the place where ligament or tendon attaches. This localized irritation causes localized soreness and a localized inflammatory reaction, resulting in the attraction there of white blood cells which, in turn, attract mobile factory cells, called *fibroblasts*, which *make* new collagen *fibers* which then self-assemble electrostatically into new *ligament*.

The new ligament fibres slowly *contract* as they mature over an 8-10 week period, which tightens loose joints and structures, restoring more original tolerances, strength, and elasticity. Thus, excessive joint looseness is reduced or eliminated, body areas feel "tight and strong again", and pain is reduced or eliminated.

You can think of this as "ligament regeneration," which is what some are now calling it. Another way to conceptualize it is that the treatment improves the strength of the "weld" of ligament or tendon to the bone. That is how it reduces or eliminates pain.

Scanning electron microscope photos at 10,000x magnification show ligamentous structures looking like skeins of yarn or groups of little ropes. Any aircraft aficionado who has done fiberglass work would recognize these photos immediately. Art *does* imitate nature!

Although mostly useful for degenerative conditions and chronic musculoskeletal injuries, even TMJ, prolotherapy also can be used for rheumatoid arthritic conditions (though not as reliably or with as great a degree of success).

Prolotherapy works best in healthy people, with good digestion who are eating a good diet, and is greatly helped by chiropractic or osteopathic manipulation and physical therapy.

Please seek out additional information before deciding on this treatment. Websites can be found on this topic, and you can contact me for a bibliography of books and articles. (please send SASE or your FAX number) Also, contact the Denver office of the American Academy of Orthopedic Medicine (AAOM), which maintains a nationwide database of 200 doctors who provide prolotherapy.

If you come for treatment, you must stop taking anti-inflammatory drugs at least three days beforehand.