



Royal Orthopaedic Hospital NHS Foundation Trust Patient Information

Prolotherapy (Ligament Sclerosant Injections)

Welcome to the Royal Orthopaedic Hospital (ROH).
For further information please visit www.roh.nhs.uk

What are ligaments?

Ligaments help to provide stability to joints. They prevent the joint from moving more than a normal range (though what is 'normal' varies from one individual to another). Some people have lax ligaments that allow more than 'normal' movement: often spoken of as 'double jointed' or hyper-mobile. In the spine there is a complex arrangement of ligaments, both between each vertebral segment and between the spine and pelvis, which allows flexibility in some directions and produces restraint in others.

Sometimes ligaments can be overstretched, or even torn (as in a sprained ankle). The ligament may then not control the joint adequately – thus leading to 'instability' which may put abnormal stresses on the joints and discs in the spine. The instability is compounded by breakdown in the muscle stabilising system through muscle weakness, fatigue and poor coordination. In women, the pelvic joints need to be supple for child bearing, and so the ligaments soften and stretch more readily. Sometimes they do not tighten up after childbirth and therefore allow too much movement: hence 'sacroiliac instability'.

What is prolotherapy?

Prolotherapy works by 'proliferating' or stimulating the body to make new fibres which are laid down within the substance of the ligaments, thickening and strengthening them. The solution: phenol 2%, dextrose 30%, glycerol 30% or simply 15-25% dextrose, is mixed with local anaesthetic and a small amount is injected into the end of the ligament, close to its attachment to bone. This initially provokes inflammation, attracting the cells that make collagen fibre to the area. Over the ensuing weeks, the fibre is incorporated into the existing ligament. Each ligament needs to be stimulated a number of times, on average three, hence the injections are given as a course. The interval between treatments does not affect the outcome.

The solution used for the injections is used in other treatment, such as varicose veins, so it is known to be safe. However, because prolotherapy for ligaments is not widely practised, it has not as yet been licensed for this particular type of treatment. Because the organic compounds in the solution are rapidly disposed of by the body, it is safe to repeat courses of treatment should it be necessary. Prolotherapy does not create scar tissue but healthy collagen fibres in the lax ligaments. It is essential to build on any progress the treatment gives you by improving your physical fitness, especially practicing spinal conditioning

exercises regularly if any part of the spine or pelvis has required treatment. Injections are commonly given in the lumbar and sacroiliac region, thoracic and cervical spine. They are also useful in the ankle and shoulder region. Recent research is showing very promising results using prolotherapy/sclerosing injections to relieve the pain associated with joint osteo-arthritis and tendinopathy.

When receiving these injections, **Entonox** inhalation analgesia is offered to relieve the discomfort of the injection.

Points to note

- Some aching and stiffness is to be expected for 2-3 days. Rest is not necessary; normal activities should be continued. Paracetamol rather than aspirin or Neurofen can be used for pain relief.
- Complications are very rare since the injection is not placed in the spinal canal or near spinal nerves. Infection occurs in approximately 1 in 17,000 of any injection, this being the main complication.
- You should wait in the clinic area for 20 minutes after any injection (or the use of ENTONOX) before driving a motor vehicle.
- The benefit is not immediate but gradual. It becomes noticeable after 6-8 weeks, increasing up to 12 weeks.
- Prolotherapy is not suitable for everyone with persistent or recurring pain problems, each person has to be assessed carefully on their own merits.