



## Case Study - Cervical Disc replacement Graham Wynn

I first experienced a neck problem in January 1998, when I awoke one evening with very significant left arm pain.

Because of the symptoms I was originally admitted to the cardiac care unit of North Tees Hospital, but discharged the day after when tests ruled out the cardiac cause.

However the pain persisted and the following week my GP arranged for my admission to Middlesbrough General Hospital under the care of a neurologist. After two weeks of various tests I eventually had a MRI scan which revealed a prolapsed disc at C6/7. My care was transferred to a neurosurgeon and I had a disc fusion and was discharged a week after surgery, by which time the arm pain had almost totally resolved.

In early 2007 I again began to experience arm problems. The "sensation" usually came on during the evening and eventually became so severe that it began to disturb my sleep. I was fortunate that I didn't really experience any severe neck or arm pain during the day, and nor did the problem cause my any mobility issues. However the sleep disturbance became so severe that I consulted my GP and he arranged referral to Mr Krishna.

I had some facet joint injections in December 2007 which did subdue the symptoms for a little while however by March 2008 the symptoms were as bad as ever and got progressively worse, despite some fairly strong analgesia such as fentanyl patches. In September 2008 Mr Krishna suggested I have some further facet joint injections, but after discussion he suggested cervical disc replacement surgery may be a better alternative. I had the surgery on 3rd December 2008 and my arm pain disappeared almost instantly and I was discharged after one night in hospital. On the evening on 5th December I had my first night's undisturbed sleep in approximately 18 months. A small but significant advance.

It's now approximately five weeks post surgery and although I initially had some severe pain in my right shoulder and numbness in my left arm I am pleased to say that these along with the original symptoms have now disappeared and I am now pain free.

The original symptoms worsened over a period of time, and it's only now that I am pain free that I fully appreciate the really detrimental effect the broken sleep had on my day to day life, and the tremendous improvement I have experienced since my surgery.

### Contact Information:

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NHS Practice:  
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Fax 01642 624814.  
Email - amanda.hardy@nth.nhs.uk

Address for Referrals: Spinal Unit, University  
Hospital of North Tees, Hardwick Road,  
Stockton-on-Tees. TS19 8PE.

PRIVATE Practice:  
Secretary: Janet Pye. Tel 07813 568585  
Fax 01642 889564  
Email: spinesec@gmail.com

Address for Referrals : Nuffield Hospital Tees,  
Junction Road, Norton. Stockton-on-Tees.  
TS20 1PX

Consulting Hospitals:  
Nuffield Hospital Tees – 01642 360100  
Nuffield Hospital York – 01904 715000



### In brief

I have been a consultant  
Spine Surgeon for 13 years  
and work at the University  
Hospital of North Tees, in  
Stockton-on-Tees.

I trained in spinal surgery  
with spine surgery fellowships in Brisbane, Hong  
Kong and Nottingham, having done my orthopedic  
training in India and England.

I perform about 250 major spine operations per year.  
I treat the full range of adult spinal problems  
including the neck, thoracic spine and low back.

## Focus on cervical disc replacement

Artificial Disc Replacement for the cervical spine is becoming an alternative worth considering instead of spinal fusion, for patients with degenerative disorders of the cervical spine.

Fusing a disc results in more strain on the adjacent discs, resulting in accelerated degeneration at these levels. Studies have shown that over a 10 year period there is a up to 50% incidence of disc degeneration, adjacent to a fused segment.

The first cervical artificial disc to be commercially available was the Bryant disc. There are now a variety of discs available- the common ones I use are the Prestige from Medtronic and Discover from DepuySpine. The Prestige has 2 metal plates which move against each other. The Discover has a polyethylene core.

Randomised controlled studies have shown that the Cervical Disc Replacement is as good as or in some studies better than fusion at 2 years. The complication rates are similar.

Biomechanically the procedure removes the pain generator (the disc), restores normal loading across the disc, and frees up the neural structures. In addition it allows some motion at that level, reducing the risk of adjacent segment failure.

Technically the surgery is straight forward, presenting no additional risks to the patient, except that of device failure. There have been few reports of device failure in the literature, and in my practice have had none.

The indications for surgery are narrower than those for fusion. We avoid it in patients with large osteophytes and virtual fusion at the affected level. We also use hybrids, fusing lower levels and doing a disc replacement at the topmost level.

Hospital stay averages 24 hrs and patients can start driving in a 7-10 days, usually returning to work in 4 weeks. Some muscular pain in the trapezius is not uncommon after surgery, and this usually resolves with physiotherapy.

I have recently produced a desk top tent card that gives referral guidelines and top ten tips to avoid missing serious spine pathology. This can be invaluable to you as a quick reminder and a handy reference in these areas. I also have some new referral cards with detailed contact information that would be handy for you to keep and refer to.



If you would like one of these please contact my secretary Janet Pye on 07813 568585.

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Cervical Disk Replacement

Will supply xrays and MRI scans  
and device images – in better  
quality

## 2009 Spinal Group Meetings

Spinal Support Group Meeting 10.00am - Teaching Centre at North Tees Hospital.  
Dates for future spinal support meetings are:

15th August, 26th September, 7th November and 30th January 2010



# Spinal injections

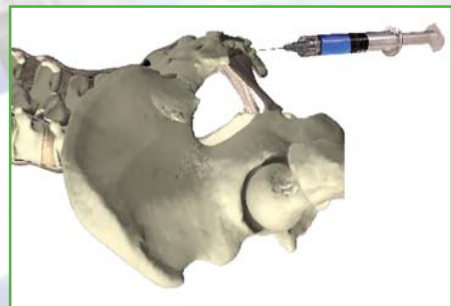
All pain relieving spinal injections involve the injection of local anesthetic and steroids (Usually Chirocaine and Kenalog) into the target area. The procedures are usually day case procedures done under sedation.

The general indication is short term pain relief. They have the advantage of having few side effects, are quick to do, and recovery is fast.

They are also used for diagnostic purposes. If an injection takes local pain away, then that confirms that area as a pain generator, which can be targeted with surgery. They are a useful tool to deal with any residual pain after surgery. All procedures are done under x-ray control.

## SACRAL EPIDURAL INJECTION:

20cc of 0.25% Chirocaine and 80mg of Kenalog are injected through the sacral hiatus into the sacral epidural space. Procedure time is 20 minutes. Patients get some buttock numbness after the procedure.

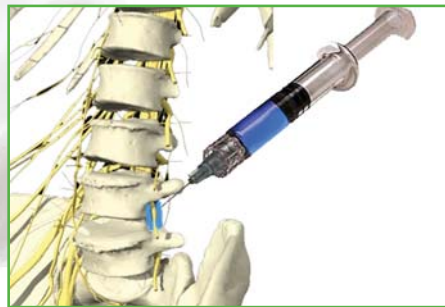


The indication is patients with leg pain- either from spinal stenosis or a disc prolapse. Its less helpful in patients with low back pain alone. The duration of pain relief varies from a few

weeks to several months, and cannot be predicted. Side effects include bladder dysfunction which usually settles by the next day. Neurological problems are rare. It reduces the need for surgery in some patients.

## NERVE ROOT BLOCK:

A long needle is inserted from the side into the neural foramen. Omnipaque dye is used to confirm its near the nerve sheath, and 3-4 cc of local and steroids are injected.



The indications are similar to those for the epidural injection, and is sometimes used in conjunction with it, for more effectiveness.

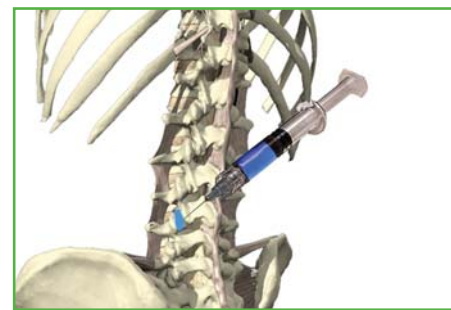
Its also diagnostic, where MRI changes are subtle, in confirming which disc is causing the patient's leg pain. We use it also to settle any neural irritation after surgery. Patients experience a heavy leg which settles overnight. While nerve injury is a possibility, its quite rare.

## LUMBAR AND CERVICAL FACET JOINT INJECTIONS:

These are targeted into the capsule of the facet joint. They are used in patients with chronic back pain or neck pain, to provide short term relief so the physiotherapy can be more

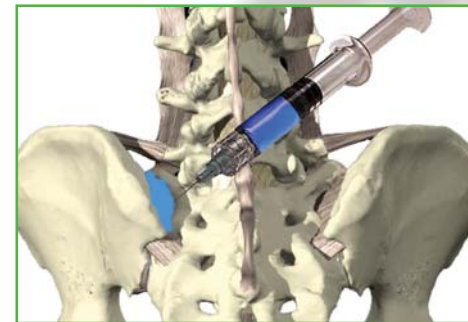
effective. Patients are usually tender over the facet joints. Complications of the procedure are rare.

Recently I have been using them for chronic neck pain, with excellent results. Its particularly helpful where surgical options are limited, as in the elderly, or patients with whiplash injuries of the neck.



## SACRO-ILIAC JOINT INJECTIONS:

Targeted into the sacro-iliac joint under xray control. Usually inserted into the inferior portion of the joint. These are diagnostic as well as therapeutic, and often the only way to confirm the diagnosis of sacro-iliac joint dysfunction. Pain in the SI joint area can be



referred from the spine, or be due to a local problem, and the injection is useful to differentiate the two.

After spinal fusion surgery, a small number of patients experience sacro-iliac pain, and this settles nicely with these injections.

## SCIATIC NERVE INJECTION:

Used to diagnose and treat patients with suspected piriformis syndrome, where the sciatic nerve gets trapped as it exits under the piriformis muscle in the buttock. Patients present with sciatica and buttock pain, with local tenderness in the buttock. The injection along with physiotherapy settles the problem down in most patients.

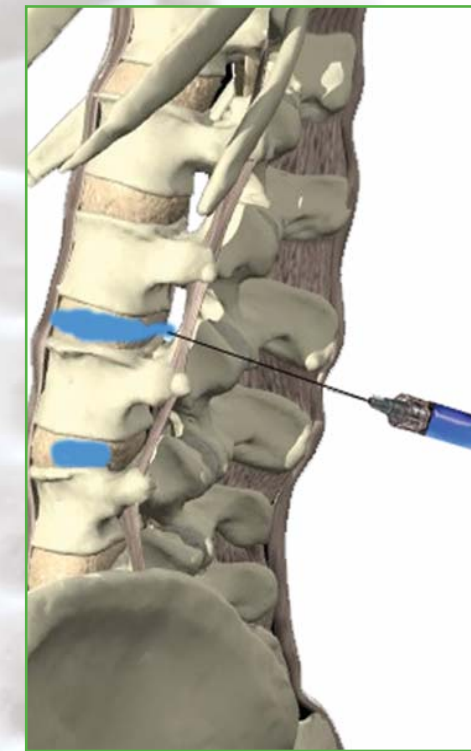
## HIP JOINT INJECTIONS:

Pain in the buttock and thigh can be caused by both a spinal lesion and hip arthritis. Usually clinical examination can tell the difference, but in some cases a local injection into the joint is a useful way to tell the difference.

We also use this for patients with gluteal and trochanteric bursitis, which is often associated with lumbar degenerative conditions.

## LUMBAR AND CERVICAL DISCOGRAPHY:

We know that not all degenerative discs on MRI scanning are painful, and vice-versa. This technique is used where the origin of a patient's pain is in doubt and to confirm the level for surgery. Under sedation, a needle is injected into the disc and injected with some radio-opaque dye. The test is positive if this reproduces the same pain the patient normally experiences. Risks are infection in about 1% of patients- but with IV antibiotics used to minimize this, I have not come across this problem. With sedation the patient has no memory of the procedure taking place and it is not distressing to the patient.



## CERVICAL PAIN QUICK FACTS

### CAUSES:

- Poor Posture
- Injury( Whiplash)
- Disc degeneration
- Facet joint degeneration
- Whiplash Injury
- Infection- discitis
- Tumour- Metastatic and Primary
- Rheumatoid Arthritis

### REFERRED TO:

- Headaches
- Arm Pain( Radiculopathy)
- Scapular area
- Chest Pain
- Low Back Pain
- Pain behind the eye

### FEATURES OF CORD COMPRESSION (MYELOPATHY)

- Often No Neck Pain
- Pins and Needles in fingers
- Heavy Legs
- Loss of Balance on walking
- Loss of fine hand function

### TREATMENT OPTIONS:

- Neck Exercises( from Website)
- Analgesia
- Physiotherapy
- Traction for Radicular Pain
- Better Posture
- Facet Injections
- Disc Replacement
- Intervertebral Fusion

### REFER IF:

- Neurological symptoms
- Pain severe
- Not responding to conservative treatment
- Sleep poor
- Analgesia not working
- Activities of daily living affected

## Launching [www.kspine.net](http://www.kspine.net)

.... A NEW WEBSITE FOR YOU AND YOUR PATIENTS. with better graphics and new material .One of the major problems patients face is anxiety about their pain due to lack of or the wrong information. The site helps them to understand the options available to help them. It includes:

- A separate area for professional including interesting cases and referral guidelines
- Video Animations
- Video Consent and Videos of Patients sharing their experiences
- Download Exercise Regimes for Back and Neck Pain
- New Technologies Explained

- A discussion board for patients
- 'Ask a Question' section

Use it as a reference guide for yourself or to decide whom to refer. Use it to reduce your consulting time, by referring patients to it for detailed explanations of their common back problems. Self-help exercise programs help more than 50% of patients - minimizing need for any physiotherapy referral.

*Use this site - it can be really helpful to you and your patients*



## Severe Back Pain- Drug Treatment Options

Patients often experience an acute flare up of back pain, when their back locks and they present with severe pain and are unable to mobilize. First rule out red flags. Check peri-anal sensation is normal. Advise patients to rest in bed for up to 3 days and then mobilize as pain allows.

**FOR PAIN RELIEF:** If pain is severe prescribe Paracetamol 1 gram qds, along with an oral anti-inflammatory (eg. Diclofenac) and an opioid (tramadol, codeine phosphate). If this does not work substitute morphine for tramadol or codeine. A combination of MST and Oromorph for breakthrough pain is usually enough. Increase the dose of morphine gradually till the pain is controlled. Treat the side-effects. This will usually allow the patient to be treated at home, and avoid coming to hospital. Supervise the morphine and use for short periods only. This avoids dependence. Diazepam in small doses ( 2mg tds) is useful for muscle spasm. **STEROIDS:** If there are no contra-indications- for acute pain, instead of an NSAID use oral prednisolone in a tapering dose. I suggest 30mg OD for 1 week, then 20mg OD, then 10mg OD and 5mg OD in the 4th week. Combine this with oral Lansoprazole for 4 weeks. Stop if any side-effects are reported. Since pain is often inflammatory in origin, this is often effective at dealing with acute pain.