



Bone marrow concentrated stem cell treatment (BMC)

You've been listed for a procedure called BMC injection treatment. This can be used for the treatment of a range of conditions like arthritis, osteochondral defects, non-unions of fractures or the augmentation of tendon repairs/joint fusion procedures. Please find below some information about the procedure as well as the expected outcome, potential benefits and possible problems for your information:

What is BMC treatment? Biological treatment options utilising stem cells have received growing interest in recent years. Bone marrow derived stem cells can be aspirated from various bones in the body. In a laboratory setting they can differentiate into different cell lines such as bone, fat, cartilage and muscle and secrete many cytokines and growth factors. Isolating, concentrating and injecting these stem cells and associated cytokines/growth factors is a biological way of supporting the regenerative efforts of the body in patients with osteoarthritis

What's going to happen when I come in? The procedure can either be carried out in theatre under general anaesthetic, or in the treatment room under local anaesthetic. This is an individual choice best discussed with the surgeon. The bone marrow cells are aspirated from the iliac crest (pelvic bone) through a tiny stab incision, using a special suction needle. Only a very small volume of bone marrow (about 60 ml) is required. The fluid sample is then prepared in a special centrifuge to concentrate and isolate the best cells, cytokines and growth factors. The final fluid preparation is then injected into the affected joint under x-ray or ultrasound guidance. The whole procedure takes approximately 60 minutes and you should be able to go home later on the same day.

Is it going to be painful? Aspirating bone marrow is painful, but the pain will subside soon after. You can also expect mild bruising from the pelvis where the bone marrow is harvested from. The injected joint may ache a bit for a few days

Possible side effects: Since the injection only contains fluid and cells from your own body, there should be no major side effects. You may experience mild pain/irritation for a few days and there may be some bruising.

Any other complications? Surgical site infection is a very rare complication following the treatment. If you notice increasing redness, swelling and pain 3-10 days following the procedure you should seek advice from the surgeon, your GP or a Doctor in A&E. You can also expect some bruising from the area where the bone marrow is harvested. Most infections can be treated with a course of Antibiotics, rarely is further surgery required to deal with an infection. Since only your own body's bone marrow is used, there is no risk of transmission of blood-borne diseases from unknown donors.

Likely outcome: BMC stem cell treatment is a relatively new technique. The scientific literature and research so far demonstrate that the procedure is safe and effective with very good outcomes. However, as with many other treatments, there is no success guarantee. You may not notice an improvement in your symptoms straight away, which may take about 2 months. During that time, you should experience a slow improvement in pain levels. According to the research literature

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further improvements can be expected for 12-24 months from a single injection. The treatment can be safely repeated if required.

Restrictions following BMC stem cell treatment: You can mobilise as pain allows straight away. You can ice the joint for a few minutes several times a day if necessary. Avoid heavy lifting and strenuous work as well as sporting activities for 4-6 weeks to support the healing process.

Physiotherapy: You will require Physiotherapy to support the rehab process, this will be an integral part of your treatment. Our Physio Lisa Barrington-Ford will discuss your rehab needs with you and will liaise with your own Physio if required.

Problems following surgery: Phone the ward for advice on 01625 505416

If you would prefer to discuss this again with me prior to treatment then please contact my secretary: Tel 07935 480188, email jfortho.secretary@gmail.com

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