

Spire Regency Hospital, Macclesfield

Bone Marrow Concentrate (BMC) for Osteoarthritis

What is BMC treatment? Biological treatment options utilising stem cells have gained growing interest in recent years. Bone marrow derived stem cells can be aspirated from various bones in the body. They can differentiate into different cell lines such as bone, fat, cartilage and muscle. Bone marrow is also rich in cytokines, growth factors and other bioactive substances. Isolating, concentrating and injecting these stem cells and associated cytokines/growth factors is a biological way of supporting the regenerative efforts of the body.

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) via a tiny stab incision, using a special suction needle. Only a very small volume of bone marrow (about 50-60 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 30 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? 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.

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. As with many other treatments, there is no success guarantee. You may not notice an improvement in your symptoms straight away. This may take up to 2 months. During that time, you should experience a slow improvement in symptoms.

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.

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