



# Knee arthroscopy and recovery: Does post-operative synovial fluid replacement improve outcomes?

VISCOSEAL® is a unique product designed to reduce pain and swelling following arthroscopic joint surgery. Developed and manufactured by **TRB Chemedica**, this novel, fermentative source sodium hyaluronate formulation is being used by an ever-increasing number of orthopaedic surgeons instead of local anaesthetic following arthroscopic joint surgery.

Arthroscopic knee surgery is a universally accepted technique, allowing an ever-increasing number of operations to be effected with less insult to external and surrounding structures, decreased incidence of complications, and a more rapid recovery and rehabilitation.

As with any surgical intervention, the procedure is not completely benign, and the continual search to improve and optimise operative techniques has led to a general consideration of the infiltrates commonly utilised both during and after arthroscopy. Potentially detrimental effects on chondro-synthesis, caused by the common practice of instilling local anaesthetic into the joint at the end of surgery, have been reported. This prompted consultant surgeon Sanjeev Anand and colleagues to investigate whether restoring a more physiologic environment within the joint – by replacing the synovial fluid with a synthetic analogue following arthroscopy – would result in a measurably improved outcome. The results of their study are soon to be published in the print edition of *The Journal of Knee Surgery*, and are already online as an e-first version.



Sanjeev Anand

**TRB Chemedica UK's managing director Alex Flanagan (AF) spoke with consultant orthopaedic surgeon Sanjeev Anand (SA) about the study he performed.**

**AF: How did the idea for your investigation into replacing synovial fluid after knee arthroscopy come about?**

SA: We were aware that some patients seemed to do less well following fairly simple knee arthroscopy – we had examined discrepancies in surgical procedure and technique, but we were also aware of some published data that was emerging at that time regarding the deleterious effects of local anaesthetic on articular cartilage, so when we were introduced to the concept of synovial fluid replacement following arthroscopy, we set up a study to determine if there was any measurable merit to the idea.

**AF: When was the study originally conducted and where?**

SA: The study was carried out in 2002/3 at the Royal Oldham Hospital in Lancashire. I designed the study, along with a number of colleagues, and we carried out the investigation over an 18 month period. The abstract and poster were presented at a number of international meetings from 2004 onwards – the full paper took a little longer to complete; it is now available as an e-first publication in *The Journal of Knee Surgery*, with a print edition coming out in 2016.

**AF: What were you particularly concerned about in terms of those patients experiencing side-effects following knee arthroscopy at that point in time?**

SA: Mainly pain and swelling, both immediately post-operatively, and in the short to medium term. Of course, we had robust analgesic protocols in place, but we noticed that those patients with enduring pain and functional deficit did not engage as well with rehabilitation programmes as those patients with no reported side-effects.

**VISCOSEAL® is introduced into the joint cavity at the end of the arthroscopic surgery, immediately after completion of the irrigation procedure.**



**AF: So what did you actually do during the arthroscopy that was different to the standard procedure?**

SA: Well, it was a very minor change. At the end of the surgery directed to the patient's particular pathology, we evacuated any remaining saline and instead of infiltrating Bupivacaine into the cavity, we infiltrated the synovial fluid replacement (Viscoseal) via a syringe and needle directly in to the joint.

**AF: Briefly, what were the results of such a relatively small procedural difference?**

SA: The most pronounced differences, which reached statistical significance compared with the Bupivacaine controls, were the SF-12 values, the WOMAC scores, analgesic consumption, and pain and swelling evaluations. The full details are included in our forthcoming publication, but we were very satisfied that our results supported the study intervention under investigation.

**AF: Were there any adverse events or post-operative problems that were attributed to the use of Viscoseal?**

SA: There were no adverse effects whatsoever.

**Authors**

**Sanjeev Anand**

Sanjeev Anand, MBBS, MS (Orth), DNB (Orth), FRCSI, FRCS (TrOrth), MFSEM, Diploma Sports/Exercise Medicine, is a consultant orthopaedic surgeon specialising in knees, sports injury and hip arthroscopy at Nuffield Health, Leeds, and at Leeds Teaching Hospitals NHS Trust.



**Alex Flanagan**

Alex Flanagan is managing director of TRB Chemedica UK.

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