

# Knee surgeons

## at London Bridge Hospital get stuck into the use of biological glues

Biological glues have been around for a number of years now, however, technology has been progressing and, since 2009, Alan Rayner and his team from the Perfusion Department at London Bridge Hospital, have been using Vivostat PRF® (Platelet-Rich Fibrin) in theatre for selected surgical cases.

Vivostat PRF® is an autologous, bio-absorbable, bio-active, biological glue that has been used in various surgical fields, such as cardiac surgery, vascular surgery, hepatic surgery and plastics. This means it comes from the patients themselves, dissolves in the body with time and contains growth factors that promote healing.<sup>1</sup> It helps seal vascular grafts, reduces bleeding and bile leakage in liver resection surgery, and it covers open wounds and promotes the healing of chronic ulcers. 120mls of the patient's blood is taken and spun down in theatre at the beginning of a case, with a process that takes less than 30 minutes, providing 5mls of biological glue that is then ready for surgical use.



The Vivostat® 'Tower' (for spinning down the patient's blood) and the Vivostat® 'Concorde' applicator pen.

More recently, Vivostat PRF® is being used at London Bridge Hospital for a number of specific indications in knee surgery.

Mr Ian McDermott, Consultant Knee Surgeon and Managing Partner of London Sports Orthopaedics (sportsortho.co.uk), is one of the country's leading knee surgeons in the fields of meniscal transplantation,

biological knee replacement (reconstruction) and custom-made knee replacement surgery. He was already using fibrin glue to secure some of his chondrotissue® articular cartilage grafts for articular cartilage replacement in the knee and he was also using a fibrin glue called Tisseel, which is derived from pooled human plasma. However, Mr McDermott was introduced to Vivostat PRF® by Alan Rayner in 2014, and since then, he has performed over 75 cases where Vivostat PRF® has been used.

**Mr McDermott now uses Vivostat PRF® for a variety of cases, such as:**

- Articular cartilage grafting: the Vivostat® acts as a glue to help secure cartilage grafts in place on the surface of a knee joint<sup>2</sup>
- Meniscal transplants: Vivostat® is used to help glue the meniscal allograft in place in the joint when replacing a missing meniscus<sup>3</sup>
- Knee replacements: here, Vivostat® is used slightly differently, being employed more as a fibrin sealant to raw bone and soft tissue surfaces, to reduce bleeding, which reduces post-operative pain and swelling. This in turn enhances early post-operative recovery.

The use of Vivostat PRF® is also of significant interest in the field of knee replacement surgery. Here, the team at London Bridge Hospital is currently working on protocols for potential prospective research projects to evaluate patients' post-operative pain levels and speed of recovery after knee replacement surgery, 'with vs without' the use of Vivostat PRF®, with clinical trials being planned with the Sports

Orthopaedics Research Foundation (the research arm of London Sports Orthopaedics) and also within the NHS at St Bartholomew's and The Royal London Hospitals.

Discussions are currently underway regarding establishing London Bridge Hospital as the UK's first 'Centre of Excellence for Vivostat®', so that surgeons from elsewhere in the UK and from abroad can come and visit to see and learn how Vivostat PRF® is used in specific cases.



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### References

1. [vivostat.com](http://vivostat.com)
2. [sportsortho.co.uk/treatment/chondrotissue-grafts](http://sportsortho.co.uk/treatment/chondrotissue-grafts)
3. [sportsortho.co.uk/treatment/meniscal-transplantation](http://sportsortho.co.uk/treatment/meniscal-transplantation)