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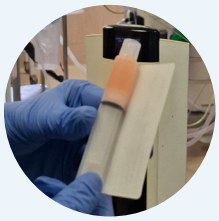
From Blood to Healing:

Melomed Tokai colorectal surgeon Dr Hassed Nathire performs innovative regenerative fistula treatment using Obsidian® RFT.

What if a patient's own blood could be transformed into a biological matrix to help their body heal? That is the principle behind an innovative colorectal procedure recently performed at Melomed Tokai, where colorectal surgeon Dr Hassed Nathire used Obsidian® RFT, an advanced autologous platelet-rich bioactive matrix, as part of the treatment of a male patient with an anal fistula. The procedure represents an exciting intersection between advanced colorectal surgery and regenerative medicine, using components derived from the patient's own blood to create a biological matrix that is applied directly to the fistula tract.



Understanding anal fistula:

An anal fistula is an abnormal tunnel that develops between the anal canal or rectum and the skin around the anus. It can occur following an infection or abscess and may result in persistent drainage, discomfort, recurrent infection and a significant impact on quality of life. Treatment can be particularly challenging when a fistula passes through the anal sphincter. Traditional fistulotomy can be highly effective for appropriately selected patients, but when the fistula involves a substantial portion of the sphincter, surgeons need to carefully balance successful treatment with preservation of continence and normal function. This challenge has driven the development of sphincter-sparing and regenerative approaches.

Turning the patient's own blood into a healing matrix

The technology used by Dr Nathire takes personalised medicine to the operating theatre. Obsidian® RFT is manufactured using the Vivostat® System, which processes approximately 120 ml of the patient's own blood to produce an autologous platelet-rich fibrin matrix. The automated preparation process takes approximately 30 minutes, after which the biological matrix is ready for application.

The product is not a conventional synthetic glue, Instead, it is a bioactive matrix containing concentrated platelets and fibrin, components naturally involved in the body's processes of clotting and tissue repair. The resulting material has a gel-like, adhesive consistency and can be delivered directly into the prepared fistula tract. Obsidian® RFT was specifically developed for regenerative fistula treatment, with the aim of providing a minimally invasive, sphincter-sparing approach.

The science behind the treatment

The science begins with two naturally occurring components of blood: fibrin and platelets. Fibrin forms an important structural framework during normal wound healing. Platelets, meanwhile, contain biological signalling molecules and growth factors that participate in tissue repair. Obsidian® RFT is designed as a three-dimensional fibrin matrix containing non-activated platelets. According to the manufacturer's scientific information, these platelets can release growth factors over approximately five to seven days following contact with tissue, supporting processes involved in tissue regeneration and healing.

Rather than simply sealing the fistula mechanically, the concept is to create a biological environment that supports the body's own repair processes. The matrix is also completely absorbable, meaning it is gradually incorporated and broken down as healing progresses.

How does the procedure work?

The treatment combines careful surgical preparation of the fistula tract with application of the autologous matrix.
The fistula tract is first prepared to remove non-viable tissue and create a suitable environment for healing. Obsidian® RFT is then delivered through a specialised catheter into the tract. The matrix fills the fistula pathway and provides the biological scaffold from which tissue healing can progress. The internal opening of the fistula is closed, while the external opening is generally left open to allow appropriate drainage during the healing process. One of the important features of the technique is that it is designed to minimise disruption to the anal sphincter.

Why is sphincter preservation so important?

The anal sphincter is responsible for maintaining bowel continence. Damage to these muscles during fistula surgery can therefore have significant long-term consequences.
This is why the development of sphincter-sparing techniques is an important area of colorectal research.

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Meet Dr Hassed Nathire

Dr Mohammad El Hassed Nathire is a specialist colorectal surgeon at Melomed Tokai, with his clinical field focused on diseases and disorders affecting the colon, rectum and anus. Melomed's specialist directory lists Dr Nathire as a colorectal surgeon at Melomed Tokai. Colorectal surgery is a highly specialised surgical discipline encompassing conditions ranging from colorectal cancer and inflammatory bowel disease to diverticular disease and complex anorectal conditions such as anal fistulas. The specialty requires detailed knowledge of the anatomy and function of the bowel and anal sphincter, with modern colorectal surgery increasingly focused not only on treating disease but also on preserving function and quality of life.

"In the South African context, where complex perianal fistula can result in repeated operations, prolonged wound care, time away from work and a significant impact on dignity and quality of life, this technique offers an exciting new direction. It represents a shift from simply cutting out disease to creating biological environment for the body to heal itself."

Obsidian® RFT was specifically developed around this principle, offering a regenerative approach that can be used for several fistula anatomies, including transsphincteric, intersphincteric, suprasphincteric and extrasphincteric fistulas. For appropriately selected patients, the ability to treat the fistula while preserving the sphincter is an important consideration.

What does the research show?

The scientific evidence surrounding platelet-rich fibrin and regenerative fistula treatment is continuing to develop. A 2025 publication examining long-term outcomes of a bioactive matrix enriched with an autologous platelet concentrate reported encouraging results in patients with complex anal fistulae. The study adds to a growing body of research investigating biological matrices as sphincter-preserving treatment options. Research specifically involving Obsidian® RFT has also been published in the colorectal literature, including a 2024 report examining its use in anal fistula treatment.

Importantly, regenerative fistula treatment is not a guaranteed cure and should not be viewed as a universal replacement for established surgical techniques. Fistula anatomy, underlying disease, previous treatment, sphincter involvement and individual patient factors all influence the choice of treatment and likelihood of healing. The significance lies in the fact that surgeons now have another biological, sphincter-conscious option to consider for appropriately selected patients.

An innovation developed specifically for fistula care

Obsidian® RFT was introduced commercially in 2021 as a dedicated regenerative fistula treatment. It forms part of the Vivostat® platform of autologous platelet-rich fibrin technologies.

The technology was developed by Vivostat A/S, headquartered in Denmark. In South Africa, Vertice MedTech Group is the listed distributor for the Vivostat range, including Obsidian® RFT. The technology's development reflects a broader movement in modern surgery towards using a patient's own biological resources to support tissue repair.

The future of regenerative surgery

The concept behind this procedure is remarkably simple: Use the patient's own biology to help the patient heal. Through the Vivostat® System, blood that would ordinarily be discarded or used only for routine laboratory purposes is transformed into a concentrated, platelet-rich fibrin matrix. That matrix is then placed precisely where healing is required. It is an elegant example of the direction in which modern surgery is evolving — combining sophisticated technology with the body's natural regenerative capacity.

For Melomed Tokai, the procedure represents more than he introduction of an innovative product. It reflects a commitment to specialist-led, evidence-informed and increasingly personalised surgical care. And for patients with complex fistula disease, advances such as Obsidian® RFT may offer new possibilities for treatment while placing an important emphasis on preserving normal anatomy and function.

Innovation that begins with the patient

From the patient's own blood to a biological matrix, from advanced technology to specialist surgical expertise, this procedure illustrates how the boundaries between surgery and regenerative medicine are becoming increasingly connected.

At Melomed Tokai, innovation is not simply about using new technology. It is about exploring better ways to treat disease, preserve function and support the body's own capacity to heal.