
Vivostat[®] Co-Delivery

By using the Vivostat[®] Co-Delivery system it is possible to co-deliver cells, drugs etc. with Vivostat[®] Fibrin Sealant or Vivostat PRF[®] (Platelet Rich Fibrin)

Vivostat[®] Co-Delivery

Vivostat has developed the revolutionary Co-Delivery system that makes it possible to co-deliver a desired substance¹ (drugs, cells etc.) with Vivostat[®] Fibrin Sealant or Vivostat PRF[®] (Platelet Rich Fibrin)

The opportunities with the Vivostat[®] Co-Delivery system are vast and the system allows the surgeon to apply a selected substance easily and effectively. Furthermore, it may be possible to reduce the total cost of a procedure by using the Vivostat[®] Co-Delivery system².

Options for Co-Delivery include:

Drugs

- Antimicrobials
- Chemotherapeutics
- Pain medications

Cells

- Stem cells
- Skin cells

Co-delivering drugs, cells etc. with the Vivostat[®] Fibrin Sealant or Vivostat PRF[®] solutions offers the surgeon and the patient a number of benefits:

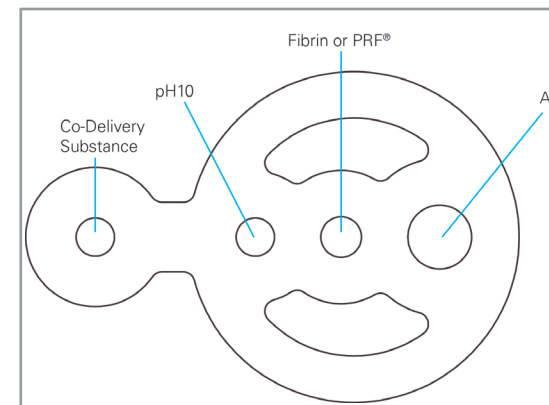
- Topical application
- Targeting affected/desired area
- Possible higher local dose
- Possible lower systemic impact
- Improved compliance

Moreover, no thrombin is added to Vivostat[®] Fibrin Sealant and Vivostat PRF[®] (unlike most other sealants and PRP products). This is beneficial to the Co-Delivery system as thrombin activation has been shown to have a negative effect on cell survival³.

The fibrin membrane found in both Vivostat[®] Fibrin Sealant and Vivostat PRF[®] has, furthermore, been shown to postpone the degradation process of the substance. This means that the fibrin membrane ensures a slow and sustained release of the substance offering a prolonged effect⁴.

How does it work

Up to 5 ml of substance may be co-delivered together with the Fibrin or PRF[®] solution. The substance is applied using the Vivostat[®] Spraypen⁵ which enables the surgeon to apply the substance accurately and intermittently throughout the entire procedure. The substance and the Fibrin or PRF[®] solution is mixed once it leaves the tip of the Spraypen and polymerizes immediately upon application - this way the substances stay where they are intended to act.



The Vivostat[®] Co-Delivery tube (Cross-section)



The Vivostat[®] Spraypen is used together with the Vivostat[®] foot switch, and the APL 404 to perform the Co-Delivery application.

1) The amount of substance and its effect on the patient is always the responsibility of the surgeon.
 2) Use of autologous bone marrow cells concentrate enriched with platelet-rich fibrin on corticocancellous bone allograft for posterolateral multilevel cervical fusion
 Vadalà et al. - Journal of Tissue Engineering and Regenerative Medicine 2008; 2: 515-520.

3) High thrombin concentrations in fibrin sealants induce apoptosis in human keratinocytes
 Gugereil et al. - Journal of Biomedical Materials Research Part A 2012; May;100(5):1239-47
 4) Intrapleural topical application of cisplatin with the surgical carrier Vivostat increases the local drug concentration in an immune-competent rat model with malignant pleuromesothelioma
 Lardinis et al. - J Thorac Cardiovasc Surg 2006;131:697-703
 5) It can also be applied endoscopically