

# Bionector Clinical Performance Study: No. 2.

Is Bionector a neutral pressure/displacement needle-free device, and how does it compare to other needle-free devices currently available in the UK?

## Background

Catheter occlusion is a major problem in terms of the management of vascular access devices. A number of papers currently recommend the use of neutral pressure needle-free devices to help combat the problem. As part of our ongoing programme of product development, we tested the effect on blood movement at the tip of a vascular access device when a syringe or administration set is removed from Bionector.

## Objective

To demonstrate that Bionector creates the least movement of blood at the distal tip of a vascular access device when compared to our competitors, and thus can be confirmed as a neutral pressure needle-free device.

## Test summary & results

In 2007 we asked Nelson Laboratories in the USA to test Bionector along with a number of other needle-free access devices currently marketed in the UK.

## Test set-up:

2ml of red colouring was added to one litre of saline. The IV connector sample was attached to the 2Fr PICC tubing. A syringe was connected to the sample. Coloured saline was flushed through the IV connector and the tubing to prime the set-up.

## IV line connector detachment:

With tubing primed to the distal end, the syringe was detached from the IV connector. The amount of fluid movement at the distal tip was measured with a balance or ruler. The line was re-primed for the next sample. The IV line connector detachment phase was performed on eight different samples at five replicates per sample.

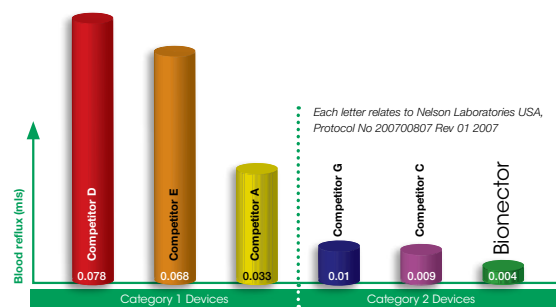
## IV line connector attachment:

After the tubing was primed, the syringe was connected to the IV connector. The amount of fluid movement was measured with a balance or ruler. The line was re-primed for the next sample. The IV line connector attachment phase was performed on eight different samples at five replicates per sample.

## Conclusion

Due to the unique way in which Bionector functions, under test conditions the device displayed the least blood reflux into the tip of a VAD compared to all our competitors. The results concluded that our best performing competitor demonstrated 125% more reflux and our worst performing competitor demonstrated 1,950% more reflux.

*Full Nelson Laboratories blood reflux testing study comparing Bionector to other needle-free devices currently available in the UK is available on request.*



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