



Value Life

INFECTION PREVENTION & SAFETY

bionector<sup>®</sup>  
TKO

Bi-directional fluid control system



# bionector TKO®

Making catheter occlusion  
a thing of the past

89.8%

Reduction in  
occlusions\*

Occlusions can be commonplace in patients with vascular access lines. This is accepted as normal, with occlusions and their consequences being dealt with as a matter of routine. The most common are:

- Thrombotic occlusion when blood or clotting agents accumulate inside the catheter
- Persistent withdrawal occlusion when fibrin is aspirated into the catheter.

## Occlusions cost you money

Anticoagulant treatment is expensive, nursing time is increased and lines may need to be replaced if they can't be cleared.

## Occlusions affect your patients

Treatment can't be delivered as needed, they may need to stay in hospital for longer; there's an increased risk of infection, and if the line can't be unblocked they have to undergo a second placement procedure.

**bionector TKO eliminates the need for heparin flushes in mid to long-term catheters.**

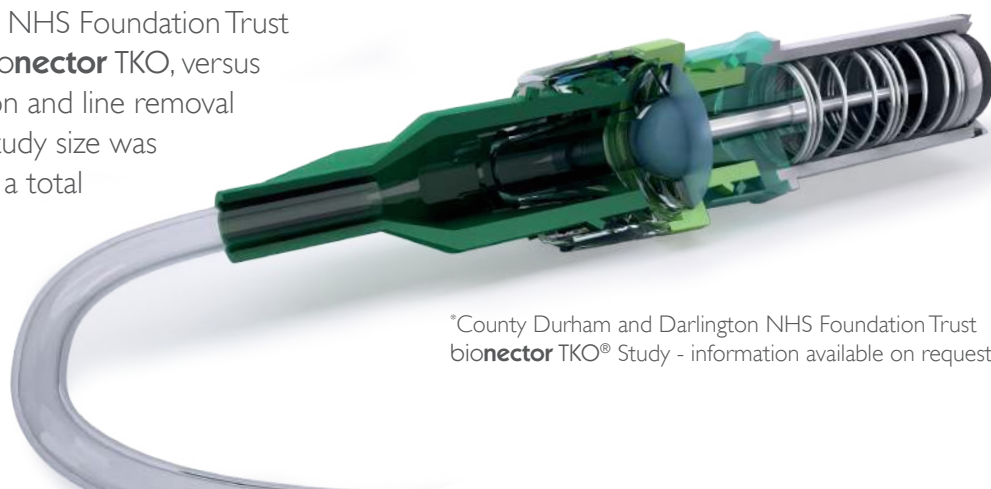
### Reduces thrombotic occlusions by preventing blood reflux from:

- Syringe and giving set disconnection
- Syringe plunger rebound
- IV bag running dry
- Venous pressure changes.

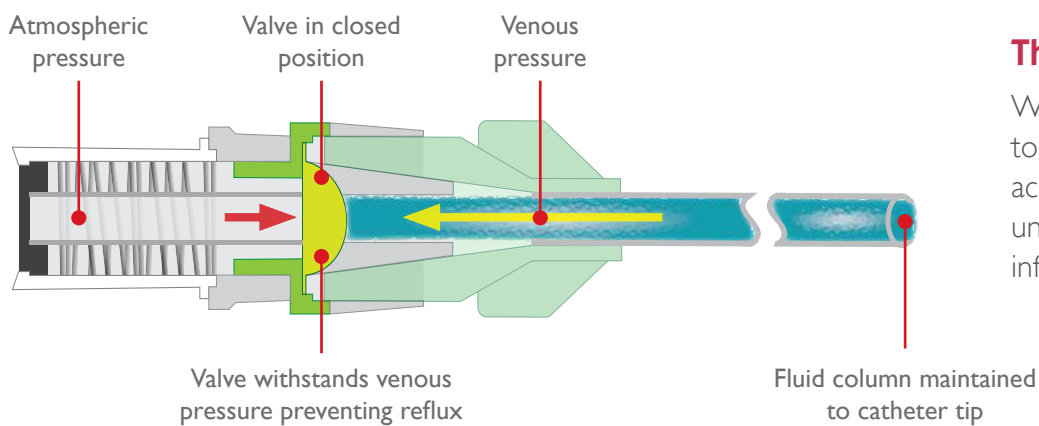
### Clinically shown to reduce:

- Catheter occlusions by 88% (50.4 to 5.8 per 1,000 catheter days)\*
- Loss of IV catheter by 91% (9% to 0.8%)\*
- Tissue plasminogen activator (tPA) usage by 85%\*.

County Durham and Darlington NHS Foundation Trust looked at the impact of using bionector TKO, versus standard bionector, on occlusion and line removal rates of midline catheters. The study size was 261 midline catheters delivering a total of 2,937 catheter days. Catheter occlusions were reduced by 89.8% and catheter removals were reduced by 83.3%.

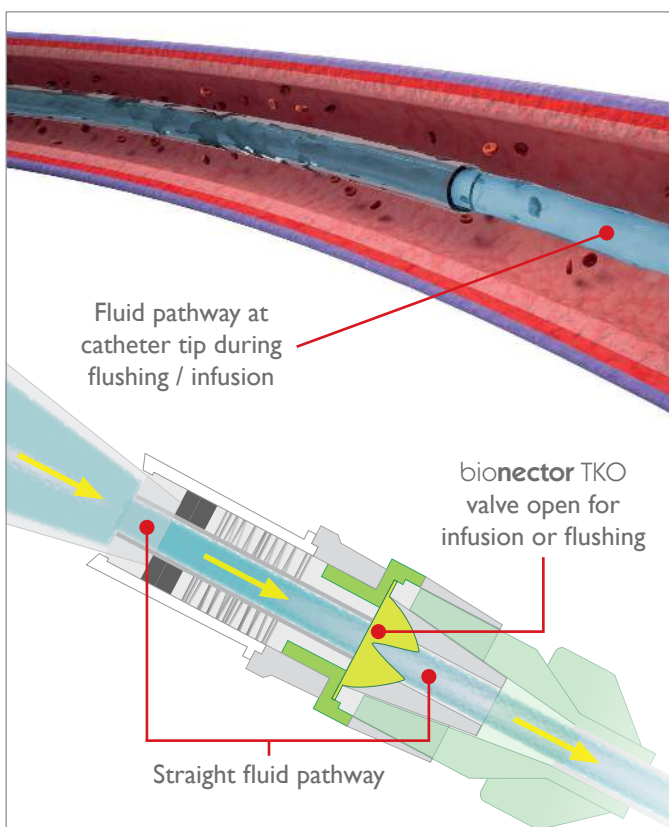


\*County Durham and Darlington NHS Foundation Trust  
bionector TKO® Study - information available on request.

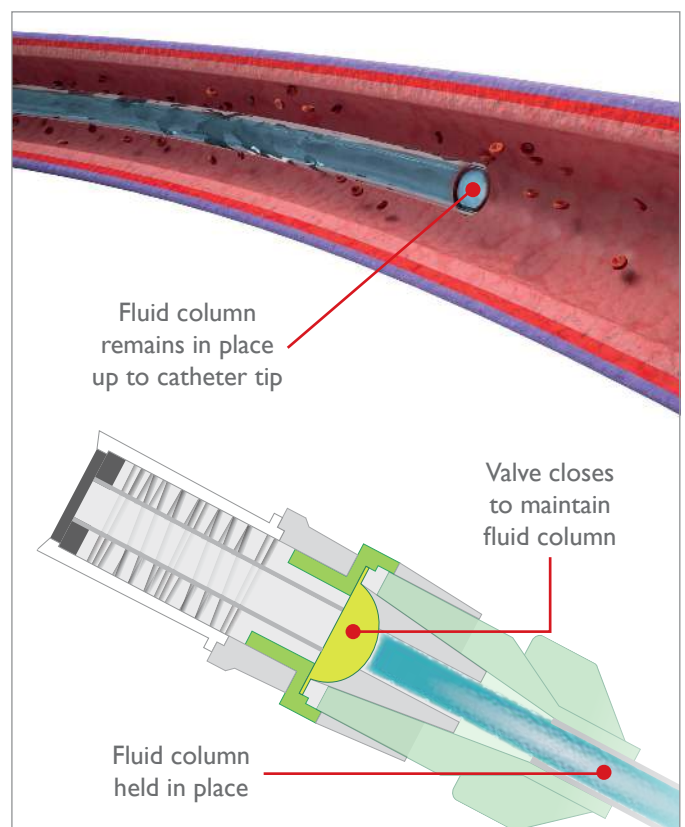


## The bi-directional flow

Withstands venous pressure to stay closed between accesses, but opens easily under forces exerted during infusion, injection or aspiration.



Valve opens on injection and infusion to allow administration of IV therapy.

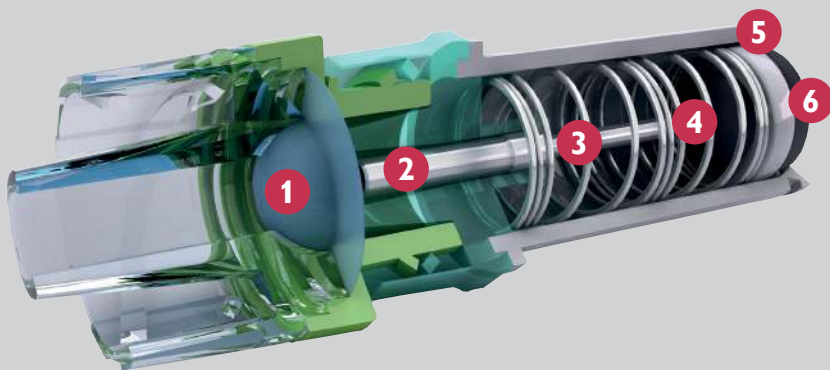


Valve closes instantaneously on disconnection, holding the fluid column in place and preventing reflux at the catheter tip.



## Technical information

- Patented “To Keep Open” (TKO) valve
- 100% bi-directional fluid control
- Valve opening pressure 0.43 psi (22.4mm Hg)
- Flow rate > 50 ml per minute - TKO
- Withdrawal pressure 7.0 psi (360 mmHg)
- Power inject up to 350 psi<sup>\*\*</sup>
- Low flow rate for neonatal care
- Straight fluid pathway.



- 1 Bi-directional anti-reflux valve
- 2 Low priming volume
- 3 Fixed, straight fluid pathway
- 4 Neutral fluid displacement
- 5 Hermetic, gap-free seal
- 6 Smooth, cleanable split-septum

- 7 MRI conditional and CT-rated
- 8 Effective microbial barrier
- 9 Luer-locking



<sup>\*\*</sup>Applies to bionector TKO® only. The Self-Administration Set has power inject up to 240 psi max.

Vygon	NHSSC	Welsh Stores	NDC	PALS	Description	Box Qty
083801E	FSW584	FSN0345	183128	FVU000317	bionector TKO® needle-free device	50/box
5222.838	FSW778	-	-	-	Self-Administration Set (SAS) 27cm + bionector TKO®	25/box



# Have you seen **bionector** TKO® Self-Administration Sets (SAS)?

Featuring all the benefits of **bionector** TKO with a longer tube for patients to self-medicate in the comfort of their own homes.

## Designed with OPAT teams

Developed with expert IV Nurse Specialists in Outpatient Parenteral Antimicrobial Therapy (OPAT) teams, the **bionector** TKO Self-Administration Set (SAS) is transforming the way IV medication can be delivered. By using the **bionector** TKO SAS, patients no longer need to visit the hospital for the therapy to be delivered. It features a 27cm polyurethane tube which is easy for patients to use and reduces the need for a community nurse to be there.

## Wide variety of uses

The **bionector** TKO SAS is being used by OPAT teams for a range of patient groups in various hospital departments including:

- Orthopaedics
- Diabetics
- Infectious diseases
- Ear, nose and throat (ENT).



Self-medicate in the comfort  
of your own home with TKO SAS



**For further information, please contact: [vygon@vygon.co.uk](mailto:vygon@vygon.co.uk)**

The specifications shown in this leaflet are for information only and are not, under any circumstances, of a contractual nature.

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Vygon (UK) Ltd, The Pierre Simonet Building, V Park, Gateway North,  
Latham Road, Swindon, Wiltshire SN25 4DL

Tel: 01793 748800 Fax: 01793 748899 Email: [vygon@vygon.co.uk](mailto:vygon@vygon.co.uk)

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