

Case Study for Speedboat

East Kent Hospitals University
NHS Foundation Trust



25%
reduction in
procedure time



198 min. | surgery



149 min. | SSD



reduction
in cost

4.5k 2.8k

Anything is Possible with the Right Approach

The Challenge

The number of NHS patients diagnosed with polyps in the colon across England in 2022 was approximately 177,000. Polyps can be benign, but over time certain types can develop into more complex lesions which can be cancerous or pre-cancerous. Many patients with complex polyps are directed to surgery to remove the lesions, the outcome often resulting in long hospital stays, stoma bags, repeat hospital visits and the risk of infection.

In 2019 Creo Medical developed the first Advanced Energy multi-modal instrument, Speedboat Inject, designed for flexible endoscopy. It allows for the curative resection of complex lesions in the colon to be performed in a day case endoscopy setting, compared to widely used surgical alternatives.

In 2022, Creo Medical approached NHS Supply Chain for support in demonstrating, and sharing, the value-added benefits of this minimally invasive device. East Kent Hospitals University NHS Foundation Trust (EKHUFT) were quickly identified as a key exemplar, having been the earliest adopter of the device and completing over two hundred Speedboat Submucosal Dissections (SSD) cases in quick succession.

Speedboat Submucosal Dissection (SSD), the procedure facilitated by Speedboat Inject, has allowed EKHUFT to establish the UK's first Complex Polyp Service. Treating patients endoscopically using SSD drives efficiencies across the full patient pathway. Not only does it reduce procedure time, but it also saves on bed days required pre/post operation, follow up appointments and further treatment due to complications. At a time when waiting lists have lengthened, following the COVID-19 pandemic, EKHUFT feel that having the ability to treat patients in a timelier fashion has been crucial.

In delivering these efficiencies, EKUHFT's financial modelling has identified net benefits of £687k, for the 130 SSD procedures on the 12-month patient pathway, which equates to £5.3k per patient.

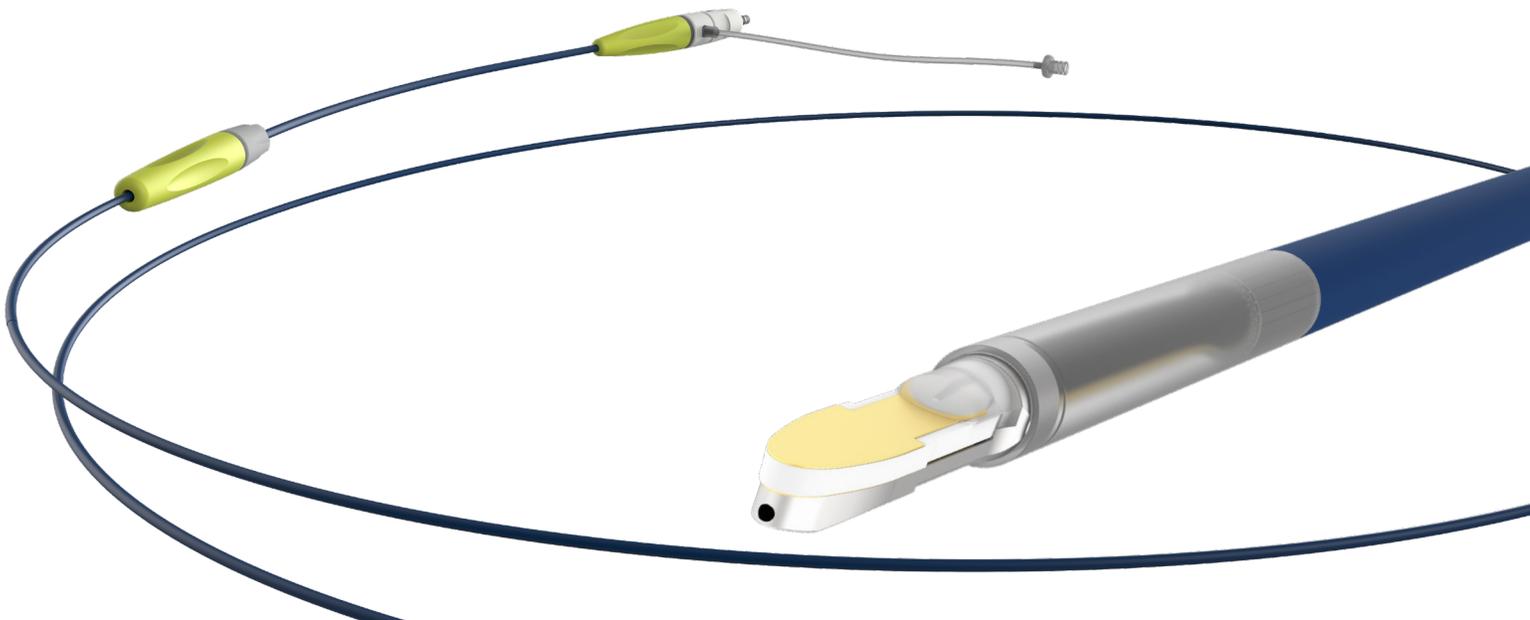
See our '[USEFUL LINKS](#)' section for more information on how Creo Medical have supported EKHUFT to achieve this outcome.

[> Improving Patient Pathways | Creo Medical](#)

The Aim

The aim of this Value Based Procurement pilot was to identify if the use of this novel technology could safely and effectively remove pre-cancerous and certain cancerous complex lesions in the colon, whilst delivering the following:

- Improved patient experience & outcomes.
- Reduction in procedure times.
- Reduction in the number of in-patients and their length of stay.
- Reduction in the need for follow-up hospital appointments.
- Reduction in overall costs.
- Increase in clinical capacity.



The Process

During the piloting of SSD, and the use of Speedboat Inject, EKHUFT have been able to identify the budgetary impact of performing SSD compared with surgical alternatives.

1000+ patients analysed

130 already Speedboat patients

Over 1,000 patients had been analysed (130 of those being Speedboat patients) from April 2018 to March 2022. Multiple trust-specific datasets, including those from PAS (a), Theatreman (theatre system), Unisoft (endoscopy system), imaging and pathology, had been joined together using the Trust's Patient-Level Information and Costing System (PLICS). This approach enabled all activities associated with each patient to be identified and costed based on the Trusts 2019/20 direct costs (uplifted by the National Tariff Payment System's Inflation figure) using the NHS England Approved Costing Guidance (ACG). The ACG explains how NHS trusts should cost at patient-level, using the costing standards to ensure consistency is maintained across the sector. The patient administration system (PAS) performs the basic but crucial function of recording non-clinical patient details including age, sex, and date of birth. The system also has all admissions clinically coded by the Trust's clinical coding team.

In collating and analysing the above data sets, EKHUFT have been able to evidence that the adoption of Speedboat Inject, and its implementation as part of the new service, has resulted in significant savings (outlined below). In addition, the level of detail provided will enable statistical analysis and health economics evaluations to be successfully undertaken with confidence.



*Only direct costs have been considered, any costs relating to Trust overheads have been excluded.

The Results and Financial Benefits

By working with NHS Supply Chain, EKHUFT demonstrated that the use of SSD, when compared with surgical alternatives, results in a less invasive procedure for patients, whilst maintaining an en-bloc resection with clear margins.

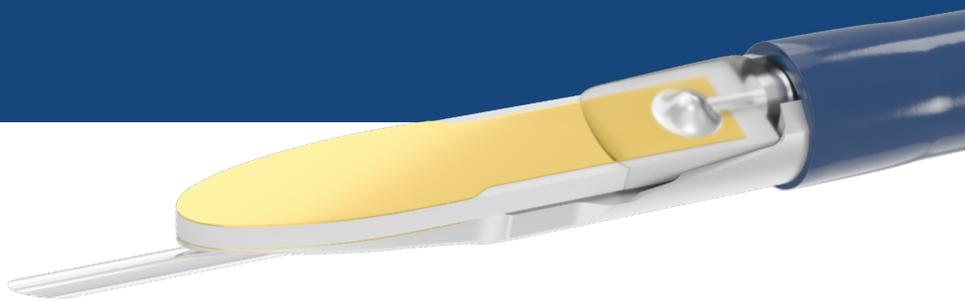
The endoscopic nature of the procedure, and the device's advanced energy modalities, makes this procedure safe, efficient and more cost effective. A breakdown of the findings are as follows:

- **£687,000 saving** for the 130 SSD procedures on the 1-year patient pathway, which equates to **£5.3k per patient**
- **Theatre time reduced** from average of 198 minutes to 149 minutes (**25% reduction**)
- **Length of stay reduced** from average of 8.39 days (of which 0.72 ITU days) to 1.07 days (of which 0.01 ITU days) (**87% reduction**)
- **Theatre procedure cost reduction** from £4.5k to £2.8k (**38% reduction**)
- **Accommodation cost reduction** from £4k to £0.3k (**91% reduction**)
- **Admission cost reduction** from £8.2k to £3.1k (**62% reduction**)
- **Over a 1-year period a cost reduction** from £8.8k to £3.6k (**59% reduction**)

Since the pilot concluded, Speedboat continues to deliver net benefits of £671k, for the 130 SSD procedures, per annum.

See Appendix A in '[USEFUL LINKS](#)' section for full details.

*The direct cost differential between the two procedures is evidential, however, there needs to be considerations around the current tariff received for the Speedboat procedure, which does not fully reimburse the admission. For the Trust this means any cost savings are currently offset by the tariff loss.



East Kent University Hospitals SSD Savings vs Surgery

59% ↓ reduction in cost over **1 year period**

£ 8.8k | surgery
3.6k | SSD

Theatre time

25% ↓
reduction in procedure time

198 min. | surgery
149 min. | SSD

38% ↓
reduction in cost

4.5k 2.8k

Length of stay

87% ↓
reduction in length of stay

8.39 days surgery
1.07 days SSD

Admissions

62% ↓
reduction in cost

8.2k 3.1k

Accommodation

91% ↓
reduction in cost

3.4k 0.3k

The introduction of this service at East Kent, and the pathway it facilitates, has immediately had a positive impact in terms of patient outcomes and overall value. With over 200 Speedboat Submucosal Dissection cases now completed, our in-depth costing work shows tangible and consistent financial benefits largely stemming from a reduction in the time patients are spending in hospital. This is due to our ability to re-direct patients from surgical waiting lists to our excellent endoscopy unit."

Elisa Llewellyn - Director of Commissioning, Contracting and Costing

NICE Guidelines

The National Institute for Health and Care Excellence (NICE) has selected Speedboat Inject to be scoped and routed for guidance in respect of the endoscopic submucosal dissection of lower gastrointestinal (GI) lesions.

See '[USEFUL LINKS](#)' section for further information - [Project information | Speedboat Inject for endoscopic submucosal dissection of lower gastrointestinal lesions | Guidance | NICE](#)

Further Opportunities

Speedboat Inject represents an alternative method of removing cancerous and pre-cancerous lesions from the colon within a day case setting, improving patient outcomes, reducing surgical operating lists, and releasing financial savings into the healthcare system.

The recent launch of slimmer Speedboat devices enables compatibility with a wider range of commonly used flexible endoscopes within the NHS; further expanding the opportunity for wider adoption. Following the recent CE approval for procedures in the stomach and oesophagus, further opportunities now present themselves for Speedboat to be used in the upper GI tract.

*This case study was carried out at East Kent Hospitals University NHS Foundation Trust in conjunction with Creo. Savings are related to a product chosen and created by the Trust. This may not be suitable for all organisations, and in these situations we have other alternatives available depending on clinical need.

Next Steps

To discuss this case study and opportunities for your trust to explore using this technology please contact:

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Appendix A - Costings Surgical Approach v Using Speedboat

1 Year Patient Journey						
Admission						
1. Using Surgical Approach		Unit Cost	Activity Count	Activity Measure	Total Care	Evidence Source
Theatre procedure						
Endoscopy Suite or Theatre Surgical Care		£6.1	198	Minutes	£1,211	(1.2)
High cost patient-specific consumables, implants and devices		£1,972	1	Count	£1,972	(2.2)
Medical Staffing Cost (Inc. Anaesthetist)		£6.9	198	Minutes	£1,358	(3.2)
Clinical Support Services						
Pathology Inc. Histo		£27		No tests	£204	(4.13)
Diagnostic Imaging		£4		No exams	£34	(4.14)
Accommodation						
Ward stay (Non Medical Staffing)		£203	7.68	Length of Stay	£1,560	(5.15)
Ward stay (Medical Staffing)		£30	7.68	Length of Stay	£329	(5.16)
Critical Care		£1,844	0.72	Length of Stay	£1,319	(5.17)
Drugs		£17		No Drugs	£130	(5.18)
Follow Up Colonoscopy/ Sigmoidoscopy - All costs relating to follow up Colonoscopy and Sigmoidoscopy examinations post procedure						
Colonoscopy/ Sigmoidoscopy		£407	1.0		£407	(6.2)
3 Month Face to face Review						
Outpatient Attendance		£73	1.0	OPFU	£73	(9.2)
6 Month Face to face Review						
Outpatient Attendance		£73	1.0	OPFU	£73	(9.2)
9 Month Face to face Review						
Outpatient Attendance			0.0		£0	
12 Month Face to face Review						
Outpatient Attendance		£73	1.0	OPFU	£73	(9.2)

1 Year Patient Journey

Admission

2. Using Speedboat		Value	Activity Count	Activity Measure	Total Care	Evidence Source
Theatre procedure						
Endoscopy Suite or Theatre Surgical Care		£6.8	149	Minutes	£1,013	(1.1)
High cost patient-specific consumables, implants and devices		£948	1	Count	£948	(2.1)
Medical Staffing Cost (Inc. Anaesthetist)		£5.4	149	Minutes	£801	(3.1)
Clinical Support Services						
Pathology Inc. Histo		£42		No tests	£45	(4.11)
Diagnostic Imaging		£6		No exams	£7	(4.12)
Accommodation						
Ward stay (Non Medical Staffing)		£167	1.06	Length of Stay	£177	(5.11)
Ward stay (Medical Staffing)		£30	1.06	Length of Stay	£32	(5.12)
Critical Care		£1,595	0.01	Length of Stay	£16	(5.13)
Drugs		£3		No Drugs	£3	(5.14)
Follow Up Colonoscopy/ Sigmoidoscopy - All costs relating to follow up Colonoscopy and Sigmoidoscopy examinations post procedure						
Colonoscopy/ Sigmoidoscopy		£362	1.0		£362	(6.1)
3 Month Face to face Review						
Outpatient Attendance			0.0		£0	
6 Month Face to face Review						
Outpatient Attendance			0.0		£0	
9 Month Face to face Review						
Outpatient Attendance			0.0		£0	
12 Month Face to face Review						
Outpatient Attendance		£82	1.0	OPFU	£82	(9.4)

3. Procedure Type	Cash-releasing	Efficiency	Total Cost per Patient
Endoscopic Procedure	£1,208	£1,900	£3,109
Surgical Procedure	£2,447	£5,767	£8,213
Savings	£1,238	£3,866	£5,104

Useful Links

> [Value Based Procurement](#)

How we are working with the NHS to shift from cash releasing savings to Value Based Procurement.

> [NHS Supply Chain: Cardio-vascular, Radiology, Endoscopy, Audiology and Pain Management](#)

This category page includes links to frameworks, contracts and publications.

> [The MedTech funding mandate](#)

The NHS Long Term Plan committed to accelerate the uptake of selected innovative medical devices, diagnostics and digital products.

> [The AHSN Network](#)

Contact details for your regional AHSN.

> [National Institute for Health and Care Excellence](#)

Speedboat for endoscopic submucosal dissection of lower gastrointestinal lesions [GID-MT602]

> [The NHS Approved Costing Guidance](#)

The Approved Costing Guidance explains how NHS trusts should cost at patient level]

> [Improving Patient Pathways | Creo Medical](#)

Acknowledgement

This data was analysed and compiled in conjunction with East Kent University Hospitals by Adam Reynolds, Costing and Pricing Accountant.

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