

MICROLINE™
SURGICAL



YelloPort® Reposable Port Access Systems
Features and Benefits, FAQs and Troubleshooting

High Quality Reposable Devices Mean Small Quantity Disposable Elements



Reduce Bio-Hazardous Waste

Reposable devices provide a high-quality instrument with the clinical

benefits of a small disposable element. They can reduce waste by 70%, compared to expensive fully disposable alternatives¹, providing the solution for hospitals looking to reduce costs and waste whilst maintaining reliability and quality.

Reliable performance every time with a long lifetime. Repposable devices are guaranteed for 200 cycles with a life expectancy upwards of 500 uses.



Reduce Cost

The cost benefits derive from the purchase of just a small disposable element and the

reprocessing of reusable components. The Total Cost of Ownership is thus less when compared to the same number of procedures performed with fully disposable devices². Additional benefits include a reduced ordering process (just 1–2 codes) and reduced storage requirements on already limited shelf space.

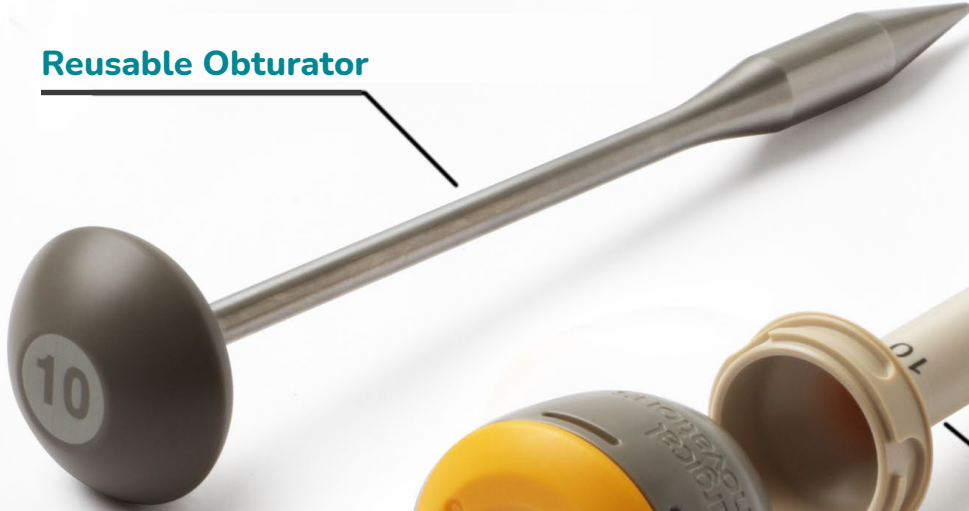


Reduce Plastic Consumption

Fully disposable devices generate approx. 350% more waste than

reposable devices³. Using a reposable device in place of a fully disposable one saves the equivalent of between 4–8 500ml plastic bottles from incineration⁴. These figures do not include waste from bulky blister packaging that often ends up mixed in with biohazardous waste, increasing removal costs. That's just with one device; considering multiple devices are used per patient, the cumulative reduction in plastic consumption per operation can be considerable.

Reusable Obturator



Reusable Cannula



Single-use Seal



**Reusable
Hasson
Adaptor**



Lightweight and Easy To Use

The cannulae are made from PEEK (Polyether ether ketone), a high quality and light weight material. The funneled upper surface is designed for easy instrument introduction.



Low Profile

The discreet design of the ports maximize accessibility for the Surgeon, particularly when ports are placed closely together.



Reduced Set-Up Time

All reusable elements are sterile and available at the patient's side, with all preferred variants. If a Surgeon needs to change their standard operating procedure, this can be accommodated quickly (i.e. extra working port or changing a 5mm to 12mm) as only the disposable valves need to be located (2 codes!), saving time for the staff pre-op and during the procedure.



Enhanced Port Retention

Micro-threaded cannulae provide assurance to Surgeons of port stability without the requirement of a balloon.



Small Footprint

Only a small incision is required which provides clinical and cosmetic benefits and can reduce the requirement for port site closure.



Testing Laboratory

Each valve is tested during manufacture, therefore the risk of a gas leak occurrence is significantly reduced.



Lubricated Silicone Valves

Ready for use, with no additional preparation required. The lubricated valves ensure ease of use and low instrument friction.



Small Learning Curve

Surgeons feel comfortable using the port access system immediately or after a small number of procedures (3–4).

Frequently Asked Questions

What are the cannulae made from?

High quality PEEK (Polyether Ether Ketone), a high quality durable polymer which is able to withstand the pressures of sterilization whilst also being lightweight.

What is the Obturator made from?

High quality stainless steel and PEEK.

What length do they come in?

- YP+ 3mm cannulas and obturators (C&T): 55mm, 75mm and 95mm.
- YP+ 5mm C&T: 55mm, 70mm, 95mm and 150mm (bariatric).
- YP Elite 10 & 12mm C&T: 75mm, 105mm and 150mm (bariatric).

Some obturator variants are not available for all cannulas, please refer to brochure for a full listing

What are the internal dimensions of the cannulas?

- 5mm: 5.5mm
- 10mm: 11.50mm
- 12mm: 13.12mm

What sizes do the Hasson Cones (Fascia Adapter) come in?

Slimline fascia adapter's are available for the 10mm and 12mm Elite cannulas. They consist of 3 parts comprising a cannula, cap and seal. These three parts are reusable.

What insufflation options are there?

- YP+ 3mm - 2 options: No insufflation (for a standard working port) or luer (black reusable luer stopper on the cannula head).
- YP+ 5mm - 3 options: No insufflation, luer (as above) or stopcock (metal and situated on head of cannula). Luer and stopcock are most common.
- YP Elite 10 & 12mm: The single use universal valve has an integrated plastic stopcock.

How do the unthreaded (micro threaded) cannulae stay in place?

The micro thread provides effective retention due to the increased surface area in contact with the tissue via the textured surface. This, coupled with a pencil point obturator that separates the muscle fibers (instead of cutting), provides optimum retention for the cannulae.

Imperative to retention is the incision size. Mark the skin with the tip of the cannula and cut across the cannula width. This will ensure the incision is accurately sized and the micro thread is securely held within the tissue layers.

Is the threaded (macro thread) traumatic?

The macro thread enables gradual advancement by rotation and, using

Archimedes' principle, works to lift and transpose tissue layers onto the cannula's outer thread safely⁵. In addition, the thread also provides greater security in that the cannulae are less likely to be dislodged⁶. This can be particularly useful for surgeries, such as gynaecology, when only the distal top is required in the abdominal cavity.

Which parts are disposable/ reusable?

YP+ 3mm and 5mm: The cannula comprises 3 parts- the cannula sheath and cap (both reusable) and a small single use (disposable) valve housed in the head. The metal obturators are completely reusable.

YP Elite 10 & 12mm: Cannulas are a 2 part piece comprising of reusable cannula sheath and disposable valve attached to the top. Metal obturators are completely reusable.

Can the reusables go on existing trays?

Yes. A hospital can choose to add the reusables to an existing set or create a new one depending on the size of the set, number of YelloPort sets purchased and the number of specialties using the YelloPorts. The benefit of the YelloPort trocars is that the hospital chooses which is the most convenient setup for their needs.

Which trocars would you recommend and why?

This is very market, hospital and OR dependent. Generally for a relatively simple laparoscopic procedure you would suggest 2–3 5mm sets (cannula & obturator) in 70 or 95mm length (threads and insufflation requirements are dependent on surgical preference) and 2 x 10/12mm sets. Within the sets, the most common recommendation is for the Pencil Point obturator for 10/12mm and Quill Tip obturator for 5mm. The Pencil Point and the Quill Tip obturator are both truly dilating obturators that separate the tissue rather than cutting it, which is better for port retention and, post operatively, for patient comfort.

Why change away from disposables? Won't it be more complicated?

Not only is there waste, cost and storage savings, but in addition the system provides simplicity with only 2 disposable SKU's on the shelf. This allows the range to be sterilised and available at the patient side so any change in requirements from the surgeon can be accommodated quickly without having to search through many SKU's in the store room. YelloPort trocars are a high quality hybrid that satisfies clinically and commercially.

How many sets will we require?

To determine this, it is important to understand.

- How many laparoscopic trays each hospital/OR has

- Usage volume of disposable trocars per annum
- Number of specialties to be included
- Off site or on site sterilization (longer sterilization times would mean more sets)
- Preference of individually wrapped units or integration into existing sets.

Once this data is collected set requirements can then be determined to begin a cost analysis.

How many times can the reusables be reprocessed?

The typical lifetime of reusable devices is circa 500 uses. They are validated to 100 reprocessing cycles, however there is no upper limit to the number of uses. It is dependent on the condition of the trocar. There are many instances around the world

where these products have been used for over 1000 cases. It is only necessary to replace when damaged or broken, for which regular checks are recommended.

Do the obturators become blunted with prolonged use?

No - as they are made from high grade stainless steel they retain their shape and efficacy.

What steps are involved in the reprocessing of the devices?

This is detailed in the IFU. The recommendation is to carry one with you at all times.

What is the cost of reprocessing?

Cost of reprocessing varies significantly from hospital to hospital depending on their process, equipment and

location (in-house/outsourced). The cost benefits of purchasing a reusable system, with the recurring cost of just a small disposable element, in addition to the savings from the reduction of clinical waste disposal (versus fully disposable products) generally more than accommodates the cost of reprocessing.

How do you ensure reusables aren't thrown away?

The valves are the only parts that are disposed of. The recommendation is always to check the surgical count to ensure all cannulas, obturators and accessories are accounted for pre and post operatively.

Inservicing is essential to ensure all are adequately educated on the reusable system. Training is recommended with the addition of visual aids (posters) for reinforcement.

How long does it take to assemble/disassemble?

Once the sterile valves have been handed to the scrub nurse, assembly is very quick and normally doesn't take any more time than a disposable. In fact, total set up time which includes finding the stock from shelves is reduced. This is due to only two types of valve being required to perform the procedure as all trocar options are on the reusable set.

There is sometimes fluid in the sterile valve pack, what is it?

All of our valves are lubricated before being packaged; sometimes some of this lubrication is seen in the sterile pack.

Troubleshooting

“The port is slipping”

The incision size is too big. Training pre-operatively is essential.

If it is a 10mm or 12mm then a Hasson (fascia adapter) might help.

“The 5mm valve has a cut / split”

This can happen with a pyramidal obturator or sharp instrument when inserted at an angle. Replace the valve and ensure the sharp obturator/instrument is inserted vertically into the cannula.

“There is gas escaping”

Sometimes gas escapes from around the trocar and the abdominal wall. This is because the incision was made too large and there is not a close fit. Ensure that the clinician is fully trained to accurately create the size of incision required.

If gas is leaking from the stopcock, ensure the stopcock is turned to the off position. On the Elite Universal Seal this needs to be beyond 90 degrees.

(YP+ 3/5mm) If gas is leaking from the luer ensure luer cap is attached properly to the insufflation tube; if this doesn't

resolve replace the luer with a spare. If none available replace cannula and change luer cap post-op. If you suspect that gas is leaking from the valve, replace the valve and retain the suspected valve for inspection by Microline Surgical.

1. Rizan C, Bhutta M. "Environmental impact and life cycle financial cost of hybrid (reusable/ single-use) instruments versus single-use equivalents in laparoscopic cholecystectomy". Table 1. *MedRxiv*, Published online March 2021, <https://doi.org/10.1101/2021.03.10.21253268>
2. Rizan C, Bhutta M. "Environmental impact and life cycle financial cost of hybrid (reusable/ single-use) instruments versus single-use equivalents in laparoscopic cholecystectomy". Page 10. *MedRxiv*, Published online March 2021, <https://doi.org/10.1101/2021.03.10.21253268>.
3. Calculated using weight of manufacturer's fully disposable product without packaging. Details available upon request.
4. Comparison assumes weight of (1) 500ml plastic bottle at 12g without label or lid and weight of manufacturer's fully disposable product without packaging. Details available upon request.
5. Taskforce For Abdominal Entry. "Principles of Safe Laparoscopic Entry", *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 2016.
6. Divers, S. "Endoscope-Assisted and Endoscopic Surgery", 2014. <https://doi.org/10.1016/B978-1-4557-0893-2.00014-4>

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