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## CASSETTE 3IN1

DESIGNED BY: PROdesign Australia  
AWARD CATEGORY: WORK



**The world's first sterile, self-contained, scalpel blade remover and sharps safe.**



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### Short description of the design:

The world's first sterile, self-contained, scalpel blade remover and sharps safe.

### How did this design improve life and for whom?:

These two clever one-piece mouldings, incorporating live hinges and snap fits, provide healthcare workers and downstream staff with sterile, safe and sure blade removal - potentially eliminating the millions of scalpel injuries sustained each year and the cost burden and trauma associated with these sharps injuries in the healthcare industry. Up to 1,000,000 sharps injuries are reported in the USA alone every year. It is estimated that the real, under-reported, number is more like 1.5 million lives at risk. At 11% of all sharps injuries, scalpel blades provide the second greatest cause of sharps injury. 90% of all sharps injuries occur to medical staff, graduates and trainees, with the remaining 10% being downstream staff:- wardstaff, cleaning, laundry staff.

### Possible drawbacks of life improvement:

None known

### What is the decisive role of the designer/design team in the creation of the nominated design?:

The designers have been decisive throughout the whole process of developing Casette 3in1. This product incorporates many clever features and has been developed after extensive user testing and feedback received from the numerous prototypes produced. Complying with all relevant Australian and International Standards, this product appears simple but packs an arsenal of features: - The product is sterilized and supplied in peel-apart packaging. - The majority of medical procedures use three or less scalpel blades. One cassette provides three cartridges ready for use. - Being self-contained with its own holder, the cassette is ideal for inclusion in procedure packs. - The lid folds back under the cassette along the live hinge, to click into place at the ideal active angle. - The unique holder is the key to the cassette 3in1 meeting international standards. Loaded scalpels can be inserted and the blades made safe with a single-handed action.

### How did the design aspect help provide coherent whole concerning form, function, resources, user kindness, aesthetics etc.:

The one-piece cartridge removes all blades from all handles in one linear action, and provides the ideal sharps container for safe handling. Add to that a one piece package which flips and clicks in place to become the ideal small footprint holder for three cartridges, and flips again to click shut for disposal, this becomes a brilliant system. Simplicity is the key. Refinement of design. Two one-shot components retailing under USD\$1 which can change the world for millions of people.

**The process used to create the design:**

With his vision of a universal solution for unmet surgical and support staff worksafety needs, Dr Neville Henry, developed numerous methods of removing blades from scalpel handles, creating a device for mass production as a low cost, low impact item and simple to use. Functional mock-ups were handmade to gather feedback from users in key international markets to evaluate specifics of the product need, and to build a case for commercialisation. Testing and analysis selected a simple linear action, which was patented. Industrial designers, PROdesign, were engaged to incorporate the patented action into a manufactured product. Detailed design, 3D CAD modelling and production of rapid prototypes for testing was undertaken over many months - each time adjusting for all blades on all handle sizes and makes. Soft tooling was then built to produce moulded product in selected polymer. A confident and safe aesthetic was adopted whilst every gram and millimetre of plastic was carefully considered. The final product weights almost nothing, is compact and delivers a host of functional benefits with an air of confidence. Everyone is safe.

**Functionality and use of design:**

Used by trained theatre staff in support of a surgeon in any surgical procedure, the Cassette 3in1 is placed in a ready position on the Meyer Table adjacent to the patient being operated upon. When a blade is no longer required, the theatre assistant inserts the scalpel - blade first - into one of the three cartridges and pushes down until a distinct CLICK is heard and felt - signifying the blade is safe. The handle can now be removed. Each of the three cartridges can be used in this way. At the end of the operation, the cassette can be folded shut and disposed of safely and efficiently.

**Name of Designer(s):**

PROdesign Australia.

**Designer's professional status:**

Professional

**Status of realization:**

In production

**Kind of design:**

Tangible

**Produced by:**

Qlicksmart Pty Ltd

**Designed in country:**

Australia

**Used on continents:**

Europe

**Link:**

<http://www.prodesign.com.au>

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