

“Perfecseal always delivers a quality project and communicates well throughout the design process which is why I value working with Perfecseal on challenging design projects.”

--Stephanie Riley, CPP, Packaging Engineer, Arthrex, Inc.



COMPANY

New product innovation in arthroscopic surgery is the heart and soul of Arthrex, which has resulted in the development of over 5,000 products for arthroscopic and minimally invasive orthopaedic surgical procedures.

BUSINESS CHALLENGE

Perfecseal and Arthrex designed the innovative package to overcome the challenges manufacturing faces in assembling suture-passing wire, a Class II medical device, used in surgery to pass sutures through ligaments, cartilage and bone. As with all projects, the needs of any design are discussed up front. It was important that the clamshell tray design footprint remain the same size, as this tray is used in other blister trays and packaging configurations. Keeping the footprint the same would eliminate the need to modify the other blister trays packaging configurations or modify any equipment.

Also, it was important to remove the lid from the new tray design to reduce assembly and labor costs. In the previous package configuration, a porous lid had to be heat-sealed to a clamshell tray before the medical suture-passing wire could be coiled into the package. Assemblers would then insert the tail end of the surgical wire into the clamshell opening and push the wire into the clamshell through this opening. This wire would coil into the clamshell as it traveled around the circular channel. However, due to the stiffness of the product, the wire would often snag. This caused the assembler to start over, leading to longer production times and added strain on the assembler.

SOLUTION

The new package design is a three-paneled, clamshell which eliminates the heat-sealed lid. In the new design, the larger ribbed cover panel of the clamshell is folded over and snapped to the base panel to create a nearly enclosed wire channel. Because the channel is not completely enclosed, the assembler is able to wrap the product into the channel through the narrow opening in the channel. The wire is held in place by the ribbed cover panel and the spring-like tension created by

the stiffness of the wire as it presses against the outer wall of the channel. Once wound, the looped head of the wire is fed through the slot in the top of the cover panel at which time the third panel is folded over and snapped in place to contain and protect the head of the wire. At the time of use, the nurse needs only to open the third panel using the thumb-tab to access the head of the wire and pull the product out.

RESULTS

The new clamshell design provides approximately \$80,000 in annual savings through labor savings and elimination of the lidding material. Moreover, “the new package gives us greater flexibility in manufacturing, as workers can either feed or coil the wires into the clamshell tray” says Riley. Additional benefits include an improved presentation and dispensing mechanism for the healthcare professional using the product.

In recognition of these results, Perfecseal, a Bemis Company, has been awarded a 2011 DuPont Packaging Innovation Award.

The tray development team consisted of Tad Kinyon (project engineer), Sueann Belmonte (Perfecseal account manager); with Stephanie Riley from Arthrex (Naples, FL).



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