Visualize MIS. Minimize Doubt.



Aesculap Spine



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>> Whatever your MIS need is,

- I Increased visibility for greater accuracy
- Simple approach to MIS procedures
- Easy transition from open to MIS surgery

S^{4®} Element takes you there. **K**

As patient demand and increasing evidence continues to drive the growth of Minimally Invasive Spine Surgery, Aesculap is poised to respond to that need. The unique design and complementary endoscope technology of S^{4®} Element MIS system is designed to increase direct surgical site visibility during minimally invasive procedures and reduce your exposure to risk.

Design Advantages:

The design advantages of the S⁴^{\circ} Element MIS are the result of proven success with the S⁴^{\circ} Element pedicle screw technology, offering good construct stability in a slim profile, and over 30 years of innovation in spine technology.

I Direct Visualization:

S^{4®} Element MIS provides a direct view of the surgical site through the use of endoscope technology, providing the ability to troubleshoot and avoid guesswork associated with MIS spine surgery while reducing exposure to radiation.

I Minimal Surgical Conversion Risk:

Industry leading rescue technique and instrumentation reduces risk of converting MIS to an open procedure.

I Operational Simplicity:

S^{4®} Element MIS offers intuitive, streamlined instrumentation to facilitate efficiency in the OR workflow.

I Slim Profile Technology:

Slim profile of instruments allows for a smaller incision and easy instrument manipulation in tight anatomical spaces, while the low profile screw reduces anatomical impingement.



Easy To Operate

S^{4*} Element MIS offers intuitive, streamlined instrumentation to facilitate efficiency in the operating room and reduce soft-tissue hindrance. The comprehensive portfolio of instrumentation reduces assembly steps while keeping a novel, slim profile design that allows for use in extremely tight anatomical spaces.

Downtube Technology

S4® Element MIS Downtube Technology allows for instrumentation to be introduced through the slim diameter to limit incision size.

>>	Slim profile (16.5 mm) reduces bulk at surgical site	
>>>	Single-piece downtube design does not require assembly	
>>>	Large window allows for easy rod passage through multiple levels	and the state of t
>>>	Clamp on screw to downtube interface eases at- tachment and detachment of the screw	and a second sec

Internal Rod Persuader

The internal Rod Persuader is introduced through the downtube to eliminate the need to lengthen the incision.

- 2.5 cm rod persuasion distance allows up to Grade II spondylolisthesis reduction.
- Ratcheting design of the slim rod persuader handle allows for persuasion in extremely tight persuader distances.

Implant Stability

S4® Element implants are design engineered to increase stability of the construct with an ultra-low profile.



Reduced Conversion Risk

The risk of converting to an open procedure can lengthen procedure time and in some cases lead to re-operation. The S^{4®} Element MIS system offers an industry leading rescue technique and instrumentation designed to detach and reattach the downtube in-situ.

- Ease of reattaching downtube to screw in-situ
- Only a small number of instrumentation required for reattachment
- I Visual markers to assist reattachment
- Easy confirmation of reattachment

In-Situ downtube reattachment



Control pedicle screw orientation with realignment tool



Align pedicle screw to dock downtube



Reattached downtube



Ease your transition

Aesculap Implant Systems is committed to easing your transition to minimally invasive surgery techniques with products and training that provide benefits to you as well as your patients. Through advanced products and high-class education, we offer an innovative approach to accommodate MIS techniques.

Aesculap[®] S^{4®} Element MIS can help you to achieve new benefits in MIS procedures:

- During rod passage through Aesculap endoscope technology
- Reduced risk to convert from a MIS to open procedure through in-situ downtube reattachment technique
- Streamlined instrumentation that is easy to use to reduce the learning curve
- Award-winning training through the Aesculap Academy, customized to your need
- Voted as the Best Technology in Minimally Invasive Spine Care 2014 by Orthopedics This Week



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