



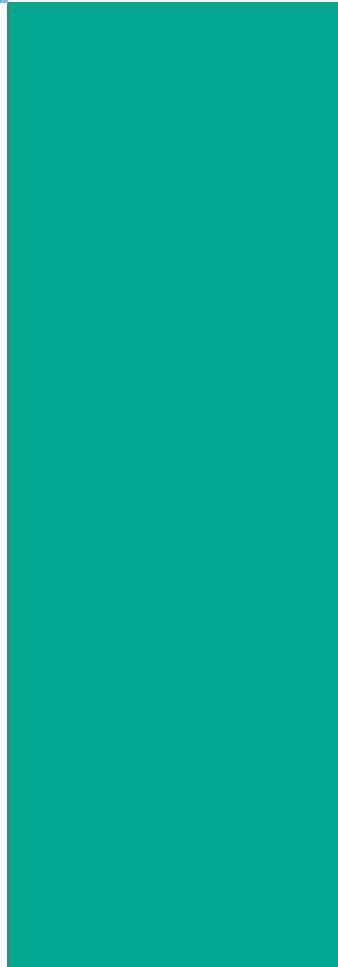
NEXT GENERATION
3.0



LAPAROSCOPIC
SURGERY

AESCULAP® 3D EINSTEINVISION®

3D 4K Visualisation for the Treatment of Endometriosis



HOW B. BRAUN AESCULAP® CAN HELP IMPROVE THE TREATMENT OF ENDOMETRIOSIS

What do we know about Endometriosis?

[Endometriosis in the UK: time for change. APPG on Endometriosis Inquiry Report 2020]

- 1 in 10 women suffer from the condition
- Average time to diagnosis is 8 years
- The ability to visually detect all manifestations of endometriosis is critical to the successful management of the disease
- Individual lesions may vary significantly in their appearance, anatomic location and depth of penetration

Endometriosis is a complex, chronic condition which is often difficult to diagnose. Visual identification and excision of numerous subtle appearances of endometriosis by conventional laparoscopy can be challenging.

What do we know about 3D Visualisation?

- Provides natural 3D depth perception^{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13}
- Improves economy of movement in laparoscopy^{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15}
- Improves surgical outcomes^{2, 3, 6, 8, 9, 10, 12, 14, 15}

Evidence supporting 3D Visualisation in Endometriosis

Mosbrucker et al, published a clinical paper online in March 2017, comparing 3 dimensional robotic endoscopes and 2 dimensional laparoscopes to visualise Endometriosis. Key findings are highlighted as follows:

- 3D endoscope identified 99.5% of lesions Vs 79.3% with 2D laparoscopes
- Number of lesions per patient were correspondingly greater with 3D endoscopes
- 100% of lesions were confirmed as positive with 3D endoscopes Vs 77.9% with 2D laparoscopes
- 100% of visualised lesions in the Pouch of Douglas were confirmed as positive with 3D endoscopes Vs 79% with 2D laparoscopes
- 3D endoscopes enabled visual detection of positive lesions <5 mm wide in 38% of cases Vs 13.6% with 2D laparoscopes
- 3D endoscopes identified 33% more superficial lesions and 17% more deep lesions Vs 2D laparoscopes
- More positive lesions were identified at every anatomic location using 3D endoscopes compared to 2D laparoscopes
- Positive lesions with cobble stoning and terrain changes were only visible with the 3D endoscope
- Almost twice as many positive lesions appearing as peritoneal defects (pockets) were detected using 3D endoscopes, compared to 2D laparoscopes.

Mosbrucker et al. Visualization of endometriosis: comparative study of 3-dimensional robotic and 2-dimensional laparoscopic endoscopes. *J Robot Surg.* 2018 Mar;12(1):59-66. Available at <https://pubmed.ncbi.nlm.nih.gov/28255736/>. (accessed 23/03/2021)

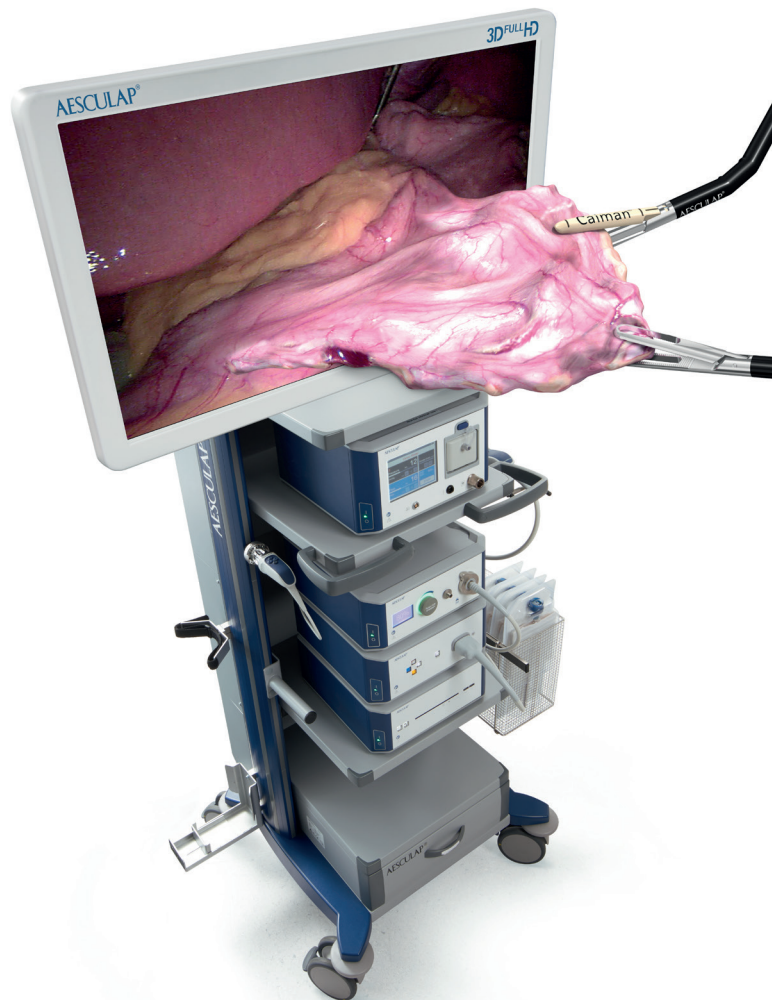
HOW CAN B. BRAUN MEDICAL HELP?

Evidence is emerging that 3D endoscopes enable better visualisation of lesions as well as histologically confirmed endometriosis lesions as seen in the Mosbrucker et al study. 4K technology is also improving visualisation for identifying better anatomical detail, through higher resolution images. B. Braun market evaluation data from surgeons using the EinsteinVision® 3D camera is indicative of data from this clinical paper.¹⁶

The Aesculap® EinsteinVision® 3.0 is B. Braun's 3rd generation 3D camera system for minimally invasive surgery. The system can now display razor sharp surgical images on a 4K (Ultra HD) monitor ensuring crisp images and impressive 3D depth. Images are delivered with uniform illumination and free of the troublesome "fogging" associated with standard 2D laparoscopes, thanks to a dedicated heated element on the endoscopes, and displayed on large 32" surgical display monitors.

The EinsteinVision® 3.0 camera also has unique red enhancement feature, potentially further aiding with diagnosis of diffuse Endometriosis, which may be difficult to detect otherwise. Side by side images can be displayed to show native images alongside "red enhanced" images, for clinical comparison.

Upon diagnosis, B. Braun Aesculap also offers an extensive range of surgical instruments, including the Caiman® advanced energy device, with Maryland advanced bipolar handpieces. These instruments deliver fine dissection, uniform tissue compression, reliable haemostasis and <1 mm thermal spread, so minimising compromise of adjacent tissue structures.



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16. Data on file.

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