# METIS HU: A New Surgical Perspective

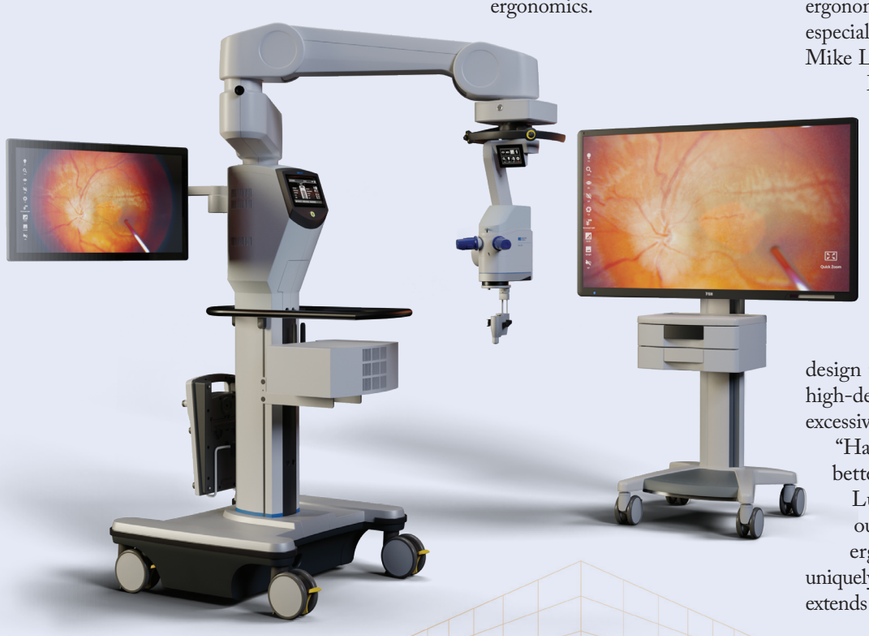
*The METIS 3D Digital Heads-Up Module provides surgeons with exactly what they need from a next-generation ophthalmic microscope upgrade*

Dr. Christopher Riemann

Dr. Edward Meier

With long operating days requiring intense concentration, fine precision, and prolonged static posture, musculoskeletal issues are an all-too-familiar experience for surgeons, particularly ophthalmologists performing countless anterior and posterior segment surgeries.

Responding to this challenge, Haag-Streit has introduced the METIS 3D Digital Heads-Up Module (METIS HU). The result is a genuine paradigm shift, enabling surgeons to operate via a large 3D display rather than traditional eyepieces, with the flexibility to switch between viewing modes.



**Bespoke surgical performance**

METIS HU comes complete with an integrated digital 3D visualization platform, creating a state-of-the-art solution for these daily ergonomic challenges and providing an enhanced optical-digital experience for surgeons.

Expanding upon Haag-Streit's trusted high-end ophthalmic microscope, the METIS 900, METIS HU has been specifically designed to support the everyday needs of ophthalmologists. By incorporating advanced 3D 4K camera technology along with a 55" 3D 4K monitor and a compact monitor cart, Haag-Streit's latest offering allows surgeons to transform their workspace into a "surgical cockpit" for improved visualization and ergonomics.

**Enhancing the surgical view**

Combining innovative 3D 4K camera technology that can constantly adapt to varying light conditions with a 4K OLED monitor, METIS HU supports ophthalmic surgery with stunning detail and clarity.

"Whether in the anterior segment, posterior segment, or with combined surgery, screen-based surgery with METIS HU is simply a delight," says Dr. Christopher Riemann of the Cincinnati Eye Institute, Ohio. "The resolution is superb, and the unique feature of being able to actively adjust the camera settings intraoperatively provides a level of control that surgeons will love. We can't fix what we can't see – but with METIS HU we can see beautifully!"

**Upgraded ergonomics**

The ergonomics of surgical microscopy are of paramount concern to surgeons who spend a large portion of their operating time in environments not necessarily conducive to good posture.

"Years of studying the effects of posture with the surgical microscope have shown us firsthand the toll that sub-optimal ergonomics can take on the neck and back, especially with ophthalmic surgeons," says Mike Luley, Director of Global Product Management, Surgical at Haag-Streit. "The message is clear: proper ergonomics are not simply nice to have – they're essential to the health of the surgeon."

Looking to address these very real, long-standing issues, METIS HU offers a "heads-up" approach. Surgeons can now benefit from sitting in an upright position, with a compact design that provides a clear view of the high-definition screen without requiring excessive head tilting.

"Haag-Streit has always championed better surgical ergonomics," explains Luley, "and we have developed our METIS 900 microscope with ergonomic features such as the uniquely engineered optical vertiscope that extends the position of the inclined oculars outwards towards the surgeon."

Luley adds: "Moreover, the METIS HU monitor can be positioned to suit the comfort level of the surgeon. Together, METIS HU provides surgeons with an exciting new way to operate using innovative "heads-up" technology while also taking advantage of a more comfortable and ergonomic way to work."

Dr. Edward Meier, ophthalmologist and director of Apex Eye Clinical Research in Cincinnati, Ohio, confirms: "As a purpose-built, 'heads-up' scope, the ergonomics are fantastic. At the end of a long day, my neck and back are much less tired than when using a traditional microscope."

Conversely, if surgeons don't want to dispense with their current setup altogether, then METIS HU offers the freedom to choose between digital and analog optical configurations. With a convenient and easy-to-use conversion process, the surgeon at the helm of the METIS HU is in full control of how the surgical device works for them.

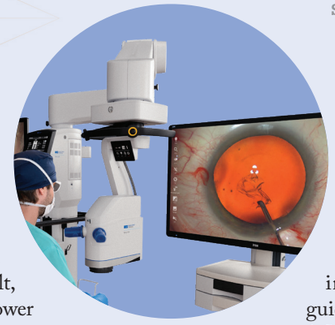
**Improved workflow & integrated digitalization**

METIS 900 reimagines workflows on the surgical microscope by providing surgeons with the ability to efficiently control all aspects – both through the traditional 14-function foot switch and via innovative hand switches that provide ten additional buttons for full control of the microscope setup. Complex microscope operations are easily performed, and custom-tailored to the surgeon's needs.

METIS HU extends this workflow with powerful new digital features that further boost workflow efficiency. Surgeons can now monitor system configurations, adapt their tailored settings, and navigate to the on-screen help "menu" with a simple, sterile touch. Similarly, using the foot switch, surgeons can activate digital quick zoom to visualize fine anatomical details and toggle image inversion without the need for additional system add-ons.

**Increased patient comfort**

A major benefit of METIS HU is lower illumination levels – the system's enhanced technology enables surgeons to work at lower light levels compared to an analog setup. As a result, patients benefit from lower light toxicity and enjoy greater comfort during surgery.



Along with lower light levels for increased patient comfort, surgeons can now use digital brightness, which is decoupled from the microscope light, to achieve the appropriate brightness levels that they require.

"The METIS HU has wonderful image clarity that is as good as a regular light path microscope," says Dr. Meier. "One of the best things is that you can use digital illumination to brighten the image while using a much dimmer microscope light. This is much more comfortable for the patient while still delivering an excellent view and red reflex."

**Immersive learning environment**

With its advanced 3D 4K camera technology and 55" 3D 4K monitor, METIS HU helps to foster an immersive learning environment for the rest of OR staff. Assistants, trainees, and other clinical personnel are able to observe surgical procedures in real-time with the surgeons, and, again, with the simple touch of a hand switch or the tap of a foot, the operating surgeon is able to simultaneously capture high-quality 3D videos and images as they work, and easily share their findings with colleagues for further analysis and review. This includes allowing multiple 3D monitors to be linked in a teaching environment, so that remote observation can be achieved in real time.

**Digital dashboard**

From the convenience of the microscope's large 27" touchscreen display, clinicians can easily control and personalize their METIS HU setup. Designed with surgeons and their teams in mind, METIS HU interfaces with Haag-Streit's latest Microscope Imaging & Operation System (MIOS 6) – a single-user interface with interactive menus to guide a surgeon's surgical workflow. This allows for customization of microscope settings and surgeon profiles, to the recording and sharing of patient data, all from one central control point.

**Digital red-free filter**

With advanced digital processing, METIS HU ensures that color, contrast, and brightness are continually optimized to deliver clear, natural images for spectacular 3D visualization. Surgeons can switch seamlessly between various filters, such as "red-free," to enhance contrast and visibility of retinal structures, creating better visualization that aids efficiency and safety in a wide variety of operating scenarios.

**Attuned to the surgical future**

Predicated on the understanding that clinician feedback is of crucial importance to manufacturers, METIS HU confirms that Haag-Streit is listening to what clinicians are saying, offering action-oriented solutions that demonstrate an indelible commitment to continuous improvement throughout the industry.

*Availability of the METIS 3D Digital Heads-Up Module may vary by region. Please contact your local Haag-Streit Distributor for details.*

To find out more, please scan the QR code, or visit *https://haag-streit.com/metis-hu/module*

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