

The risk of TASS makes proper instrument handling procedures more important than ever

Devon Schuyler
in Las Vegas

Proper instrument handling is more important than ever, in light of two outbreaks of toxic anterior segment syndrome (TASS) across the US in the past two years.

TASS, a complication of anterior segment surgery, is a sterile inflammation of the anterior chamber of the eye. A 2005 outbreak was linked to a balanced salt solution that was contaminated by endotoxins and pulled from the market.

The cause of the second outbreak, in 2006, was never determined, but the TASS Task Force, sponsored by the American Society of Cataract and Refractive Surgeons, concluded in its September report that "the cleaning and sterilisation of instruments for cataract surgery appears to be the most important factor involved in many of the cases of TASS reviewed".

In fact, site visits to investigate possible causes of TASS revealed just how widespread poor instrument handling procedures appear to be.

Susan Clouser RN, a national expert on TASS who became an independent consultant to hospitals on this issue, told a session of the annual American Academy of Ophthalmology meeting that she had visited 14 hospitals between April and October of 2006.

"At every single site visit I've been on, instrument cleaning has been an issue... and instrument cleaning accounts for a high percentage of cases of TASS," she said.

The latest guidelines

The TASS Task Force is currently updating its guidelines for proper instrument handling, and the most recent (2006) edition of *Care and Handling of Ophthalmic Microsurgical Instruments* from the American Society of Ophthalmic Registered Nurses (published by Kendall-Hunt) specifically addresses prevention of TASS.

Ms Clouser said that there are several important points to be taken away from both the Task Force guidelines and the book.

First, it's essential that the staff be properly trained. That means that staffers should receive an initial orientation, demonstrate that they understand the procedures, have those procedures reviewed periodically, and receive continuing education.

"If you don't have people who know what they're doing, you're doomed from the beginning," she said.

The instrument cleaning process needs to begin in the operating room, where nurses should wipe instruments after use, keep ophthalmic viscosurgical devices from drying on the instruments, and flush hand-pieces with a balanced salt irrigating solution as soon as possible after use.

The next step is decontamination, which means bringing the instruments to a soiled utility room for mechanical cleaning with a soft bristled brush. Hand-pieces should be flushed with 120 to 150 cc of water, according to the manufacturer's instructions,

and dried with forced air or medical-grade nitrogen. There should also be a visual inspection of each instrument.

After decontamination comes cleaning, which should be done according to the manufacturer's instructions. For most phacoemulsification and I/A hand-pieces, this means avoiding the use of ultrasound machines, enzymatic cleaners, and detergents, and simply flushing with sterile, distilled or deionised water. Ms Clouser said that she usually recommends against using enzymatic cleaner on instruments because this has been a source of problems at several facilities, but said that "if you feel that you absolutely can't give up your enzymatic cleaners, make sure it's at the end of the day and that you rinse thoroughly." In an interview with *EuroTimes* after the presentation, she observed that enzymatic cleaning is mandatory in some European countries.

The final step is steam sterilisation in an autoclave unit, which should be thoroughly cleaned and rinsed according to the manufacturer's instructions.

Her closing advice was to avoid stressing the system by allowing adequate time for proper instrument cleaning and sterilisation.

"You may need to add instrumentation or staff to meet your goals," she said.

Nick Mamalis MD, who also spoke on TASS at the AAO meeting, told *EuroTimes* that he agreed with Ms Clouser's approach to preventing TASS.

"Proper cleaning and sterilisation of instruments are key, as are setting up



Nick Mamalis MD

protocols and staff training," said Dr Mamalis, who heads the TASS Task Force and the Intermountain Ocular Research Centre at the University of Utah School of Medicine in Salt Lake City.

Dr Mamalis said that the TASS Task Force has issued a new set of guidelines in conjunction with the ASCRS, CDC, Food and Drug Administration, ASORN and AORN called "Recommendations for the cleaning and sterilisation of intraocular cataract surgical equipment". This report was published in the *J Cataract Refract Surg.* 2007; 33:1095-1100 and is available online at www.ASCRS.org.

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