“When I was working with the ASICO team on potential TASS related issues, I found that they were very responsive to the issues of adequate cleaning of the handpieces, especially the irrigation/aspiration handpieces or injector handpieces and they were very good at not only looking at potential ways of measuring any residual material within a handpiece, but also trying to come up with designs of handpieces that will allow adequate flushing and adequate cleaning.”

Dr. Nick Mamalis
Utah, USA
What is TASS
A COMPLICATION FROM UNCOMPLICATED CATARACT SURGERY - T.A.S.S., TASS
TOXIC ANTERIOR SEGMENT SYNDROME

02 Diagnosis/Symptoms
TASS can be identified and noticed within 24 hours of surgery and will severely affect the eye which has to be treated by steroidal treatment.

03 Cause/Avoidance
There are 5 ways to avoid TASS; 1) Proper use of sterilization unit 2) Meiculous care of all instruments 3) Avoid reusable cannulas 4) Washing out Betadine from the field 5) Minimize excessive use of intracameral injectors However, the least manageable of the 5 avoidance steps, shown above, is #2, specifically the care and sterilization of an IOL injector, because it involves cleaning of difficult to access areas with a reusable product. Note: Even pre-loaded, single use, lens cartridges can be a risk because of manufacturing issues that may occur.

04 TASS Incidents
The specific incidence is under-reported, however, it is fair – based on the above specific information, to ascribe a rate of about 1%. Future studies are necessary to determine the true incidence so that recognition and treatment is given the attention it deserves.
You can even guessestimate that 12 million procedures, even at 1% incidence, could mean 120,000 patients per year, affected by TASS which is a potentially sight threatening disease (EyeNet). And, as indicated, not all cases are captured or reported.

05 ASICO Solution
ASICO designs Injector and I/A hand piece which is found to be most common area where existing instruments in the market doesn’t have to offer to controls over TASS cases. These two completely disassemble instruments are designed to achieve best thorough cleaning.

AE7-0029 - ASICO CLEANING I/A HANDLE
• Compatible to all popular phaco consoles
• Designed to be used with various I/A tips
• Fits multiple sleeves
• All titanium

“Safety in the application of reusable ophthalmologic instruments manufactured by ASICO LLC has been assured by the validation of automated and manual cleaning processes by SMP using up to date scientific methods.”

Dr. Ludger Schnieder
Germany

Reference: Safety in Ophthalmologic Surgery, 2013
Diffuse limbus-to-limbus corneal edema and anterior segment inflammation noted in a patient with Toxic Anterior segment syndrome (TASS)

What is TASS? Background

- Toxic anterior segment syndrome (TASS) - acute postoperative inflammatory reaction in which a non-infectious substance enters the anterior segment and induces toxic damage to the intraocular tissues.

- Almost all cases occurred after uneventful cataract surgery. Recently, it has been reported after phakic intraocular lens implantation.

- Previously, this syndrome was defined by many names, such as sterile endophthalmitis or postoperative uveitis of unknown cause. Furthermore, a condition termed toxic endothelial cell destruction (TECD) syndrome has been described and is now believed to be a variant of TASS.

MIS-IDENTIFIED, UNKNOWN CAUSE, UNDER-REPORTED
DIAGNOSIS/ SYMPTOMS

This is a potentially sight threatening disease if not caught early

- Rapid Onset – within 12-24 hours after surgery
- Blurry Vision – Eye Irritation
- Marked Inflammation ( anterior segment )
- Limbus to limbus corneal edema ( swelling )
- Hypopyon ( pus )
- Possible fibrin formation( fibrin chains )
- Pupil dilated and less responsive to light
- Elevated IOP, a few days after surgery ( intraocular pressure )

Figure 1: Toxic anterior segment syndrome (TASS) in the right eye, one day after implantation of a foldable Artiflex pIOL.

Figure 2: Cell deposits on the posterior surface of a foldable Artiflex phakic pIOL in the right eye, two months after surgery. The TASS has subsides.

Figure 3: Severe fibrinous reaction one day after foldable toric pIOL implantation in the anterior chamber.

Figure 4: Pigment deposits on the posterior surface of a foldable toric Artiflex pIOL one week after surgery.
HOW TO AVOID TASS

* Toxic anterior segment syndrome (TASS) is quickly becoming a problem for surgeons doing volume surgery in ambulatory surgical centers and hospitals. Its incidence may be avoided with the following:

1. Proper use and maintenance of surgical sterilization units
2. Meticulous care and sterilization of all surgical instruments
3. Avoidance of reusing cannulas
4. Washing out Betadine from the surgical field prior to beginning surgery
5. Minimizing the excessive use of intracameral injections (antibiotics, vital dyes, viscoelastics)

CAUSES / AVOIDANCE

TASS experts investigating the most recent outbreak believe that improper instrument cleaning and sterilization procedures were associated with the outbreak in 80% of instances. Correcting these problems will require the establishment or improvement of instrument cleaning protocols, more extensive staff training and closer oversight of how surgical instruments are maintained.
1.87% of patients develop TASS following anterior segment surgery.

The global incidence rate of TASS for these surgeries was 15/801 (1.87%).

About 12 million procedures, even at 1% incidence, could mean 120,000 patients per year, affected by TASS which is a potentially sight threatening disease (EyeNet). And, as indicated, not all cases are captured or reported.

The conclusion can be that there are many causes for this problem, but the biggest uncontrollable variable, so far, has been the inability to properly clean IOL injector systems.

“The specific incidence is under-reported, however, it is fair – based on the above specific information, to ascribe a rate of about 1%. Future studies are necessary to determine the true incidence so that recognition and treatment is given the attention it deserves.”

* Korean J Ophthalmology
ASICO SOLUTION

INTRODUCING WORLD FIRST COMPLETELY DISASSEMBLE INSTRUMENTS FOR THOROUGH CLEANING

ASICO SOLUTION

Disassemble I/A Hand Piece for Thorough Cleaning

AE7-0029 - ASICO CLEANING I/A HANDLE

• Compatible to all popular phaco consoles
• Designed to be used with various I/A tips
• Fits multiple sleeves
• All titanium

Disassemble Cleaning Injector for Thorough Cleaning

AE-9063CSP - ASICO CLEANING I/A HANDLE

• Overall length is = 171mm in completely extended position
• The Royale Cleaning Injector is the latest in the ASICO Royale series of Injectors
• Completely Disassembles for a thorough cleaning

PATHOGEN FREE Outcomes
CONTAMINATION RESULTS

Use of the ASICO cleaning system, for the Screw type injector, was successful in returning a contaminated study injector to its pre-contamination ‘clean’ condition.

“TESTING SHOWED THAT THE ASICO CLEANING SYSTEM RETURNED THE INJECTOR TO THE CLEAN, OR PRE-CONTAMINATION LEVELS FOLLOWING CLEANING (205 TO 205), VERSUS A CONTAMINATION COUNT OF 947”
Quantification of remaining Test Soil

What about detergent contamination?
Worst Case Contamination Test

CONTAMINATION RESULTS

As a separate part of the same study, the ASICO cleaning system was successful in returning the test injector to its original, pre-detergent condition.

“THERE WAS ZERO MEASURABLE PROTEIN, EITHER ON OR IN THE INJECTORS, AS DETERMINED WITH THE STUDY METHOD FOR SPECIFIC CLEANING VALIDATION”
ASICO's Ophthalmic Instruments

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Tass Management
Featuring: Dr. Nick Mamalis

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