

Urban Legends:
What You Don't Know
Can Hurt You

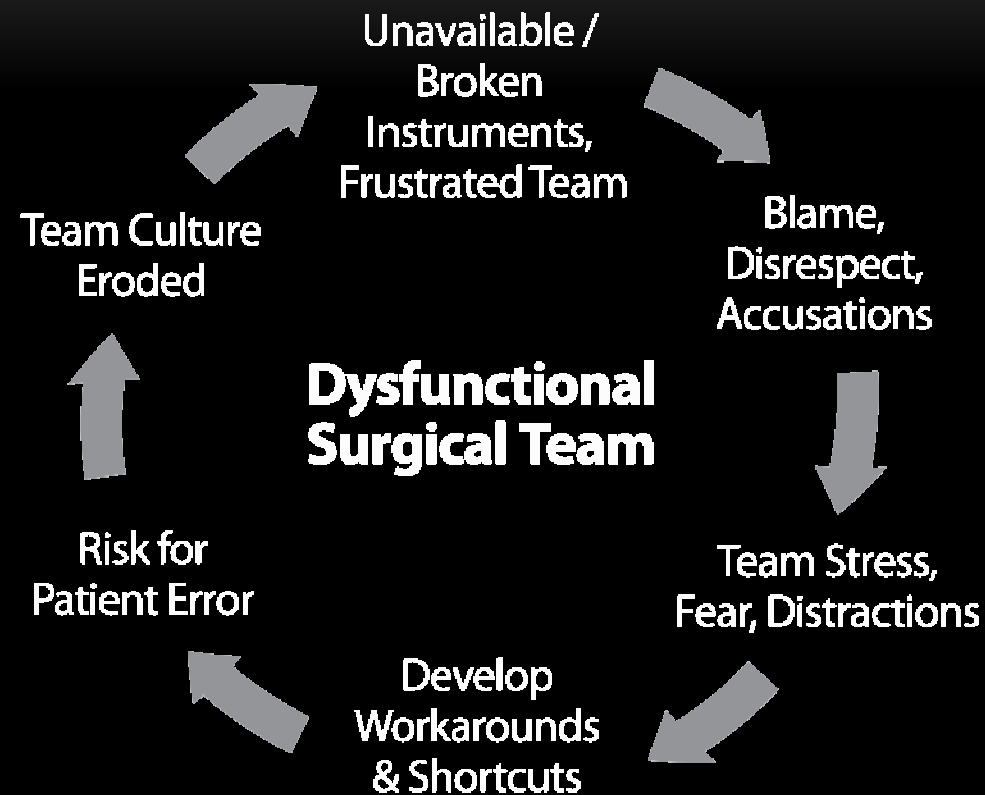
Objectives

1. Identify urban legends as they pertain to instrumentation.
 2. Discuss how design limitations impact performance of instrumentation.
 3. Identify the key elements to consider when developing/analyzing a Request For Proposal (RFP) in the instrument acquisition process.
 4. Describe the relationship of proper instrument maintenance to patient safety.
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Urban Legend

- Folklore, myth, misinformation believed to be true
 - Assumed accurate if teller deemed trustworthy
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When Instruments Aren't Ready ... Team Doesn't Function



Perceptions of Stress in OR

- Stress experienced frequently/very frequently^{1&2}:
 - Equipment doesn't work
 - Varying degrees of equipment problems
 - Instrument availability
 - Nurses unfamiliar with instrumentation
-

Patient Safety can be impacted by instruments problems

- Delays: Extended anesthesia time
 - Instrument malfunctions during procedure
 - Improper/incomplete cleaning or sterilization = dirty instruments
 - Surgeon distracted during procedure
 - **All of these can place the patient at risk**
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Urban Legend: It's Somebody's Fault

- Caring for instrumentation is a process ... yet many view instrument issues as independent events that have a solution
 - Buy more instruments
 - Train staff to handle properly
- Mostly the problems with instruments are not about people ... but how the system is set up
- That is why it is important to have a Culture of Safety

Debunking Urban Legends

Power Instruments

Urban Legend: One Drill, One Case

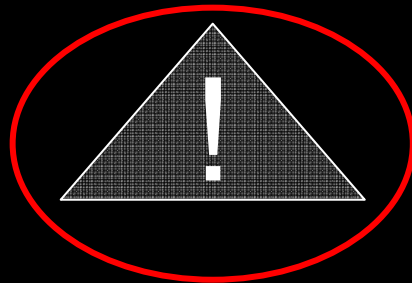
(Multiple Choice)

During a procedure, the drill needs to be turned off after running continuously for:

- a) 1 minute
 - b) 10 minutes
 - c) 20 minutes
 - d) Never
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Urban Legend: One Drill, One Case

- Duty Cycle ... is amount of time a drill can be used before it is required to cool-down / rest due to heat buildup inside drill
- If not followed and damage occurs ... cause of failure may be “user error.” Manufacturer may or may not cover cost of repair
- Ask sales rep to explain duty cycle on each model
- Sample of duty cycle symbol on drill and in manual



Differences in Duty Cycles

Drill	Duty Cycle
Manufacturer A	
Model 1	1 minute on / 4 minutes off / 5 times / 3-hour rest
Model 2	1 minute on / 4 minutes off / 5 times / 3-hour rest
Model 3	1 minute on / 4 minutes off / 3 times / 3-hour rest
Manufacturer B	1 minute on / 5 minutes off

Debunking Urban Legends

Flashing (Immediate Use Sterilization)

Urban Legend: Flashing Saves Time & Money

(True or False)

Autoclavable scopes and drills can be flashed an unlimited number of times without damaging them.

False

Urban Legend: Flashing Saves Time & Money

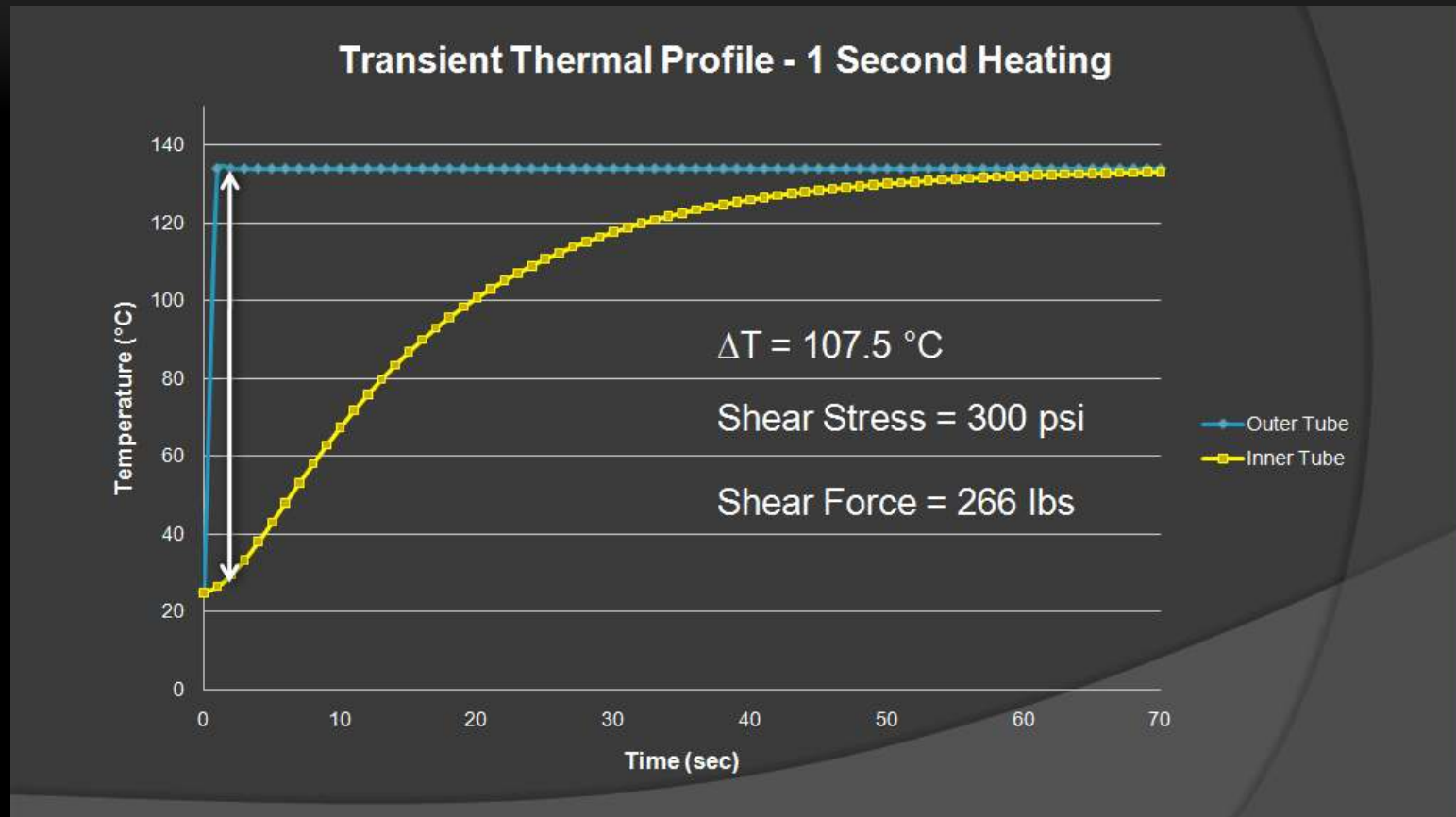
- Each flash subjects instrument to 15-20 times higher stresses than normal sterilization
 - Instrument may be autoclavable ... but manufacturer recommends flashing as last resort
 - Doesn't save time when:
 - Case delayed / postponed / interrupted to flash due to lack of a needed volume of functioning inventory
 - Other elements not tracked besides time for flash
-

Urban Legend: Flashing Saves Time & Money

Flashing Rigid Endoscopes

- Damages glue joint and stresses components
 - Heats outer tube faster than inner tube, causing stress on glue joint at tip of scope
 - Leads to premature failure, repeated repairs, and shortened lifespan
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Urban Legend: Flashing Saves Time & Money

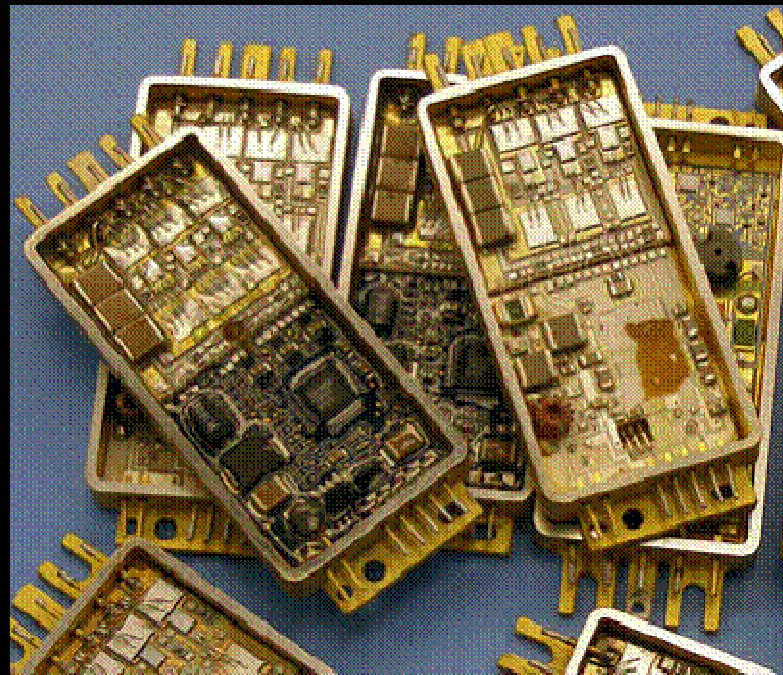


Urban Legend: Flashing Saves Time & Money

Flashing Drills

- Drill gets hot on inside and outside
 - Water cools exterior so it can be handled ... but heat remains trapped inside
 - If drill isn't cool on inside, limitations of the duty cycle further extended
 - Cool outside + hot inside = condensation inside (and damaged electrical components)
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Urban Legend: Flashing Saves Time & Money



DEBUNKING URBAN LEGENDS

User Abuse Is Always the Cause of
Damage

Urban Legend: User Abuse Is Always the Cause of Damage

“What’s my staff doing?”

“These two parts are made to work together, so normal wear and tear should not compromise them.”



Urban Legend: User Abuse Is Always the Cause of Damage

- Camera & coupler threads commonly made of aluminum
 - Fine for permanent couplings
 - Not optimal for repeated (re)attaching



Steps to Prevent “Abuse” Charges

Ask:

- What material was failed component made of?
- What did R&D determine as expected life span? Can I see test results?
- Based on repair history documentation, what is product's % of damages classified “user abuse?”

Do:

- Educate staff and avoid blame as first reaction
 - “Phone a Friend” (find out if others are having similar problems with that equipment)
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Urban Legend: HD Is Truly HD

(True or False)

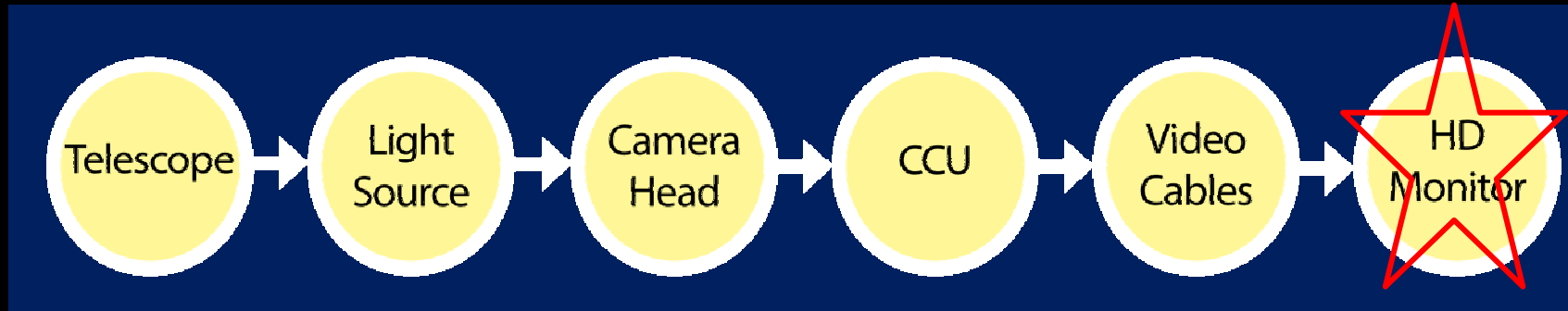
If it says HD on the instrument and the manufacturer says “the system” is HD, the image will be HD.

False

Urban Legend: HD Is Truly HD

Your current rigid scopes and HD imaging

- Imaging chain is from surgical site to monitor image




- Chain only as strong as weakest link
 - HD system paired with conventional scope will not provide HD image
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Urban Legend: HD Is Truly HD

- Diffraction limit restricts resolution of optical instruments
 - To increase resolution, use larger lens system or more relay systems
 - If rigid scope not High Definition scope:
 - Only provides “standard resolution” to camera
 - Camera passes SD image to monitor ... at HD price
 - To get HD image, entire system must be HD
-

AORN Checklist

COMPREHENSIVE SURGICAL CHECKLIST			
Blue = World Health Organization (WHO) Green = The Joint Commission - Universal Protocol (JC) 2010 National Patient Safety Goals Orange = JC and WHO			
PREPROCEDURE CHECK-IN	SIGN-IN	TIME-OUT	SIGN-OUT
In Holding Area	Before Induction of Anesthesia	Before Skin Incision	Before the Patient Leaves the Operating Room
Patient/patient representative actively confirms with Registered Nurse (RN):	RN and anesthesia care provider confirm:	Initiated by designated team member All other activities to be suspended (unless a life-threatening emergency)	RN confirms:
Identity <input type="checkbox"/> Yes Procedure and procedure site <input type="checkbox"/> Yes Consent(s) <input type="checkbox"/> Yes Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A	Confirmation of: identity, procedure, procedure site and consent(s) <input type="checkbox"/> Yes Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A by person performing the	Introduction of team members <input type="checkbox"/> Yes All: Confirmation of the following: identity, procedure, incision site, consent(s) <input type="checkbox"/> Yes	Name of operative procedure Completion of sponge, sharp, and instrument counts <input type="checkbox"/> Yes <input type="checkbox"/> N/A Specimens identified and labeled <input type="checkbox"/> Yes <input type="checkbox"/> N/A
Include in Preprocedure check-in as per institutional custom: Beta blocker medication given (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A Venous thromboembolism prophylaxis ordered (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A Normothermia measures (SCIP) <input type="checkbox"/> Yes <input type="checkbox"/> N/A	discussed care plan and addressed concerns <input type="checkbox"/> Yes	Scrub and circulating nurse: <input type="checkbox"/> Sterilization indicators have been confirmed <input type="checkbox"/> Additional concerns?	
<p>The JC does not stipulate which team member initiates any section of the checklist except for site marking. The Joint Commission also does not stipulate where these activities occur. See the Universal Protocol for details on the Joint Commission requirements.</p>			

Are required instruments ready?

Sterile

Available

Functioning

When Instruments Are Ready ... Team Does Function

