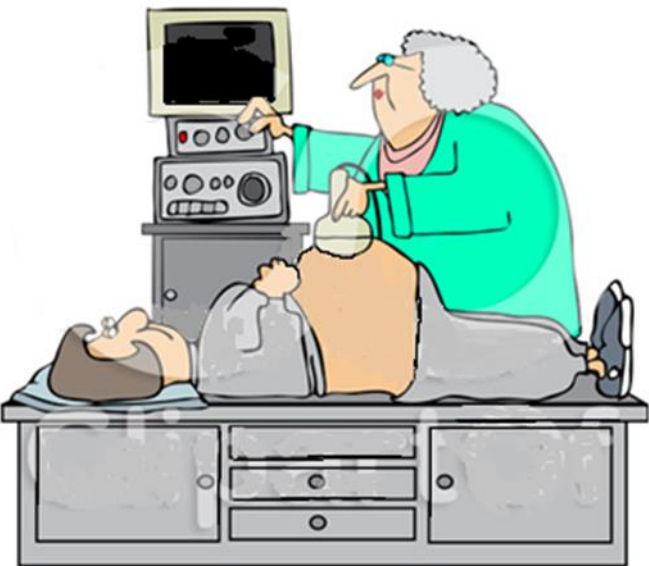


Controle de infecção em serviços de radiologia

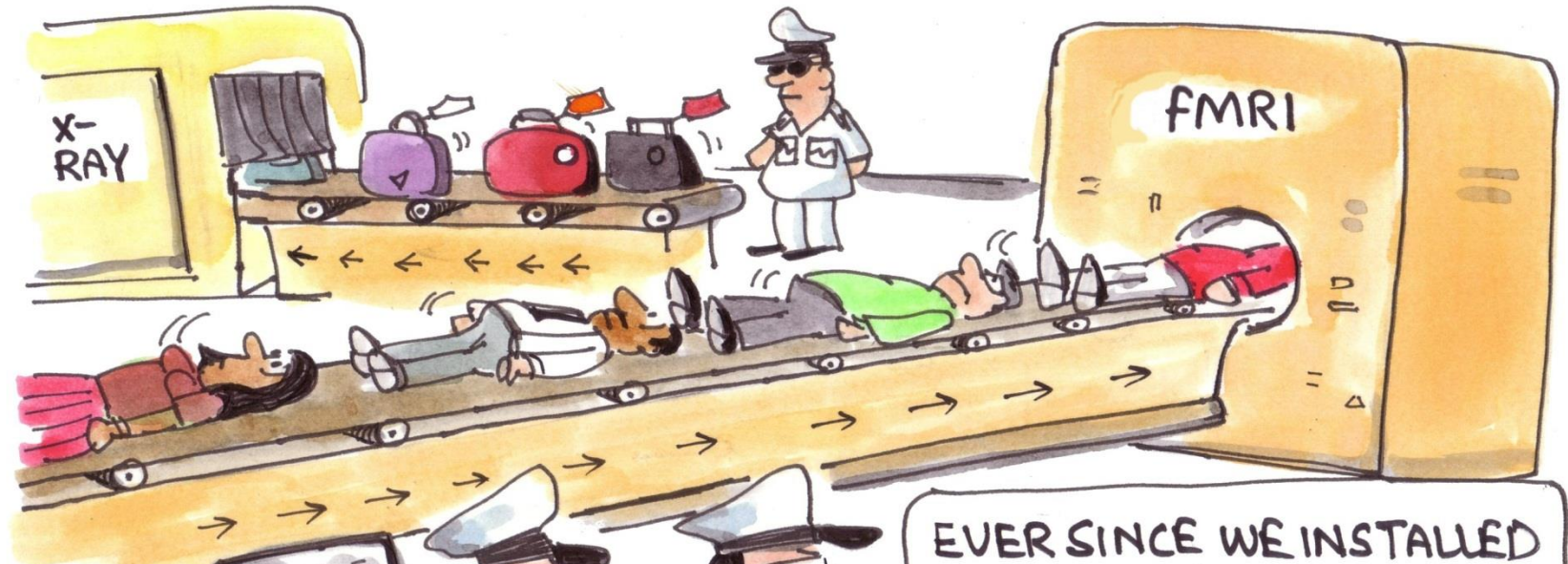
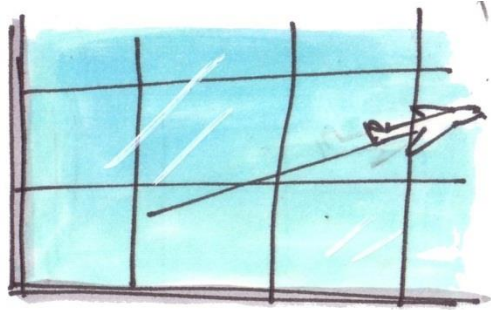


Mirian de Freitas Dal Ben Corradi

CCIH- Hospital Sírio Libanês



AIRPORT SECURITY CHECK
↙ BAGGAGE PEOPLE ↘



EVER SINCE WE INSTALLED THIS FUNCTIONAL MRI FOR SUSPICIOUS PASSENGERS, IT'S EASY TO PICK OUT THOSE WITH DANGEROUS INTENTIONS!

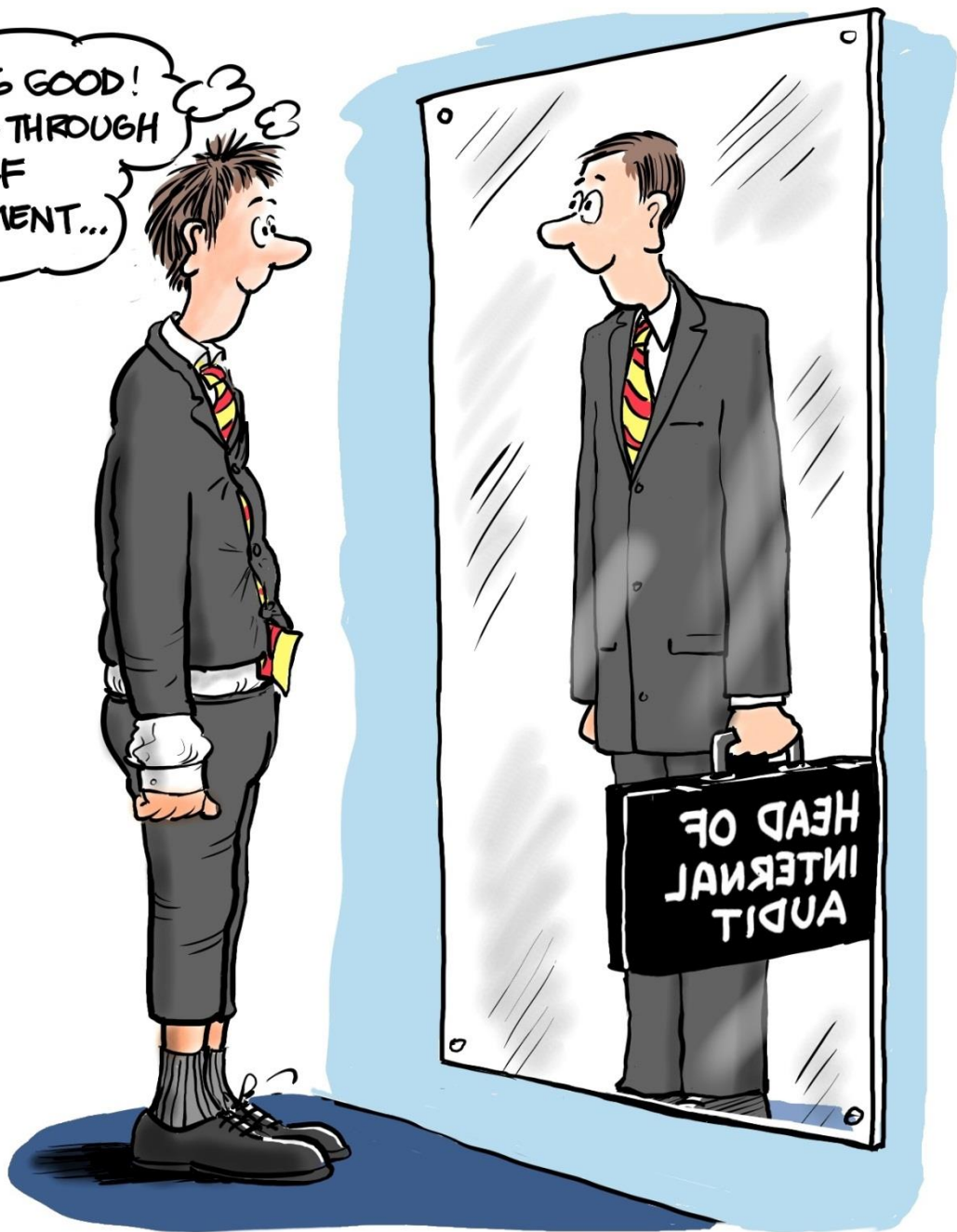
© Monpavica

Infection Control Practices among Interventional Radiologists: Results of an Online Survey

J Vasc Interv Radiol 2009; 20:1070–1074

- 19% relataram higienizar as mãos entre trocas de luvas
- 56% usavam gorro na passagem de cateter
- 54% usavam barreira máxima na passagem de cateter
- 44% relataram terem tido treinamento em controle de infecção

LOOKING GOOD!
I'LL SAIL THROUGH
THE SELF
ASSESSMENT...



TRANSPORTE

- Precauções
- Higiene de mãos



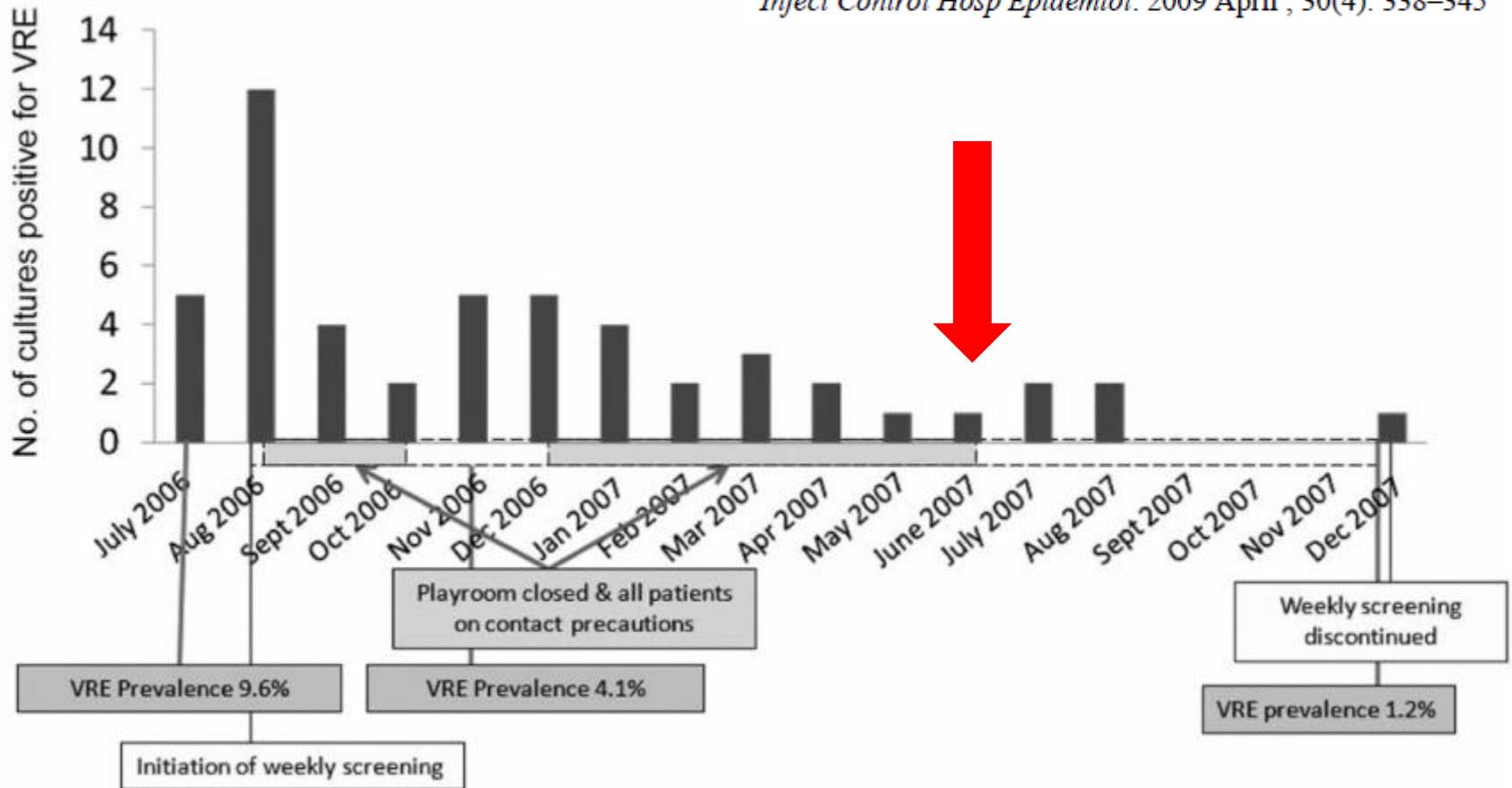
Safety through redundancy: a case study of in-hospital patient transfers

Qual Saf Health Care 2010;**19**:e32.

- 30% das transferências de pacientes colonizados por MRSA e VRE do andar para a radiologia aconteciam sem respeitar o isolamento estabelecido

Outbreak of Vancomycin-Resistant *Enterococcus* Colonization Among Pediatric Oncology Patients

Infect Control Hosp Epidemiol. 2009 April ; 30(4): 338–345



VRE. Observations in the interventional radiology department revealed that staff could not access the portions of the electronic medical record in which isolation precautions were documented. Simple interventions that granted access and that trained interventional radiology staff to review the need for precautions, coupled with enhanced infection control practices, interrupted ongoing transmission and reduced the proportion of VRE screens that were positive to 15 (1.2%) of 1,270.

RX

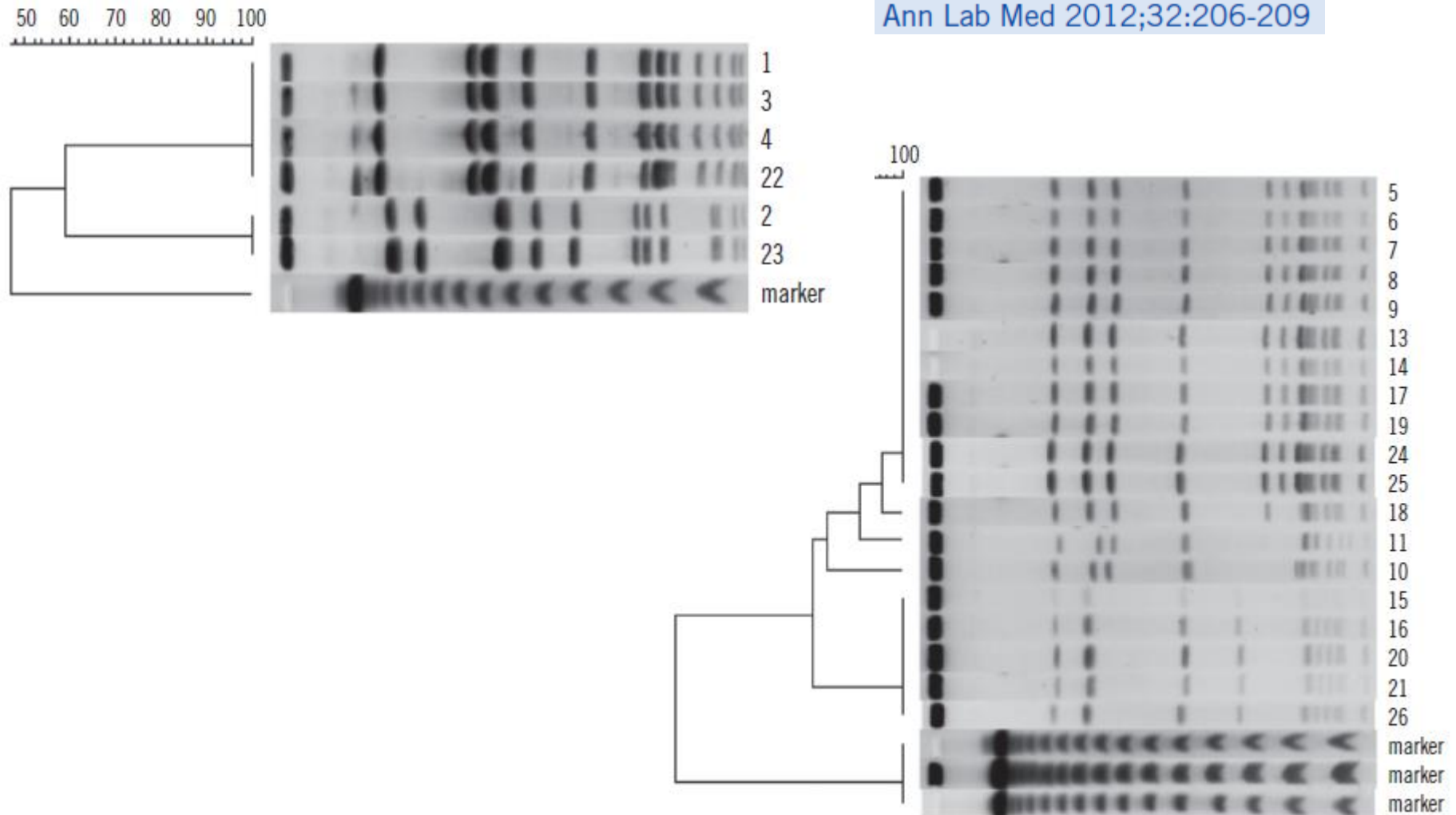
- Precauções
- Higiene de mãos
- Limpeza/ Desinfecção

Infectious Disease News; May 2008, Vol. 21 Issue 5, p20



Contamination of X-ray Cassettes with Methicillin-resistant *Staphylococcus aureus* and Methicillin-resistant *Staphylococcus haemolyticus* in a Radiology Department

Ann Lab Med 2012;32:206-209



ULTRASSONOGRAFIA

- Precauções
- Higiene de mãos
- Desinfecção dos transdutores
- Gel



Surtos?

Morbidity and Mortality Weekly Report

***Pseudomonas aeruginosa* Respiratory Tract Infections Associated with Contaminated Ultrasound Gel Used for Transesophageal Echocardiography — Michigan, December 2011–January 2012**

Ultrasound echocardiographic gel contamination by *Burkholderia cepacia* in an Italian hospital

Journal of Hospital Infection 76 (2010) 354–372

Outbreak of *Pseudomonas aeruginosa* Infections After Transrectal Ultrasound-Guided Prostate Biopsy

UROLOGY 69: 912–914, 2007.

An Outbreak of *Achromobacter xylosoxidans* Associated With Ultrasound Gel Used During Transrectal Ultrasound Guided Prostate Biopsy

THE JOURNAL OF UROLOGY®

Vol. 185, 144-147, January 2011

BURKHOLDERIA CEPACIA INFECTIONS ASSOCIATED WITH INTRINSICALLY CONTAMINATED ULTRASOUND GEL: THE ROLE OF MICROBIAL DEGRADATION OF PARABENS

Infection Control and Hospital Epidemiology, Vol. 25, No. 4 (April 2004), pp. 291-296

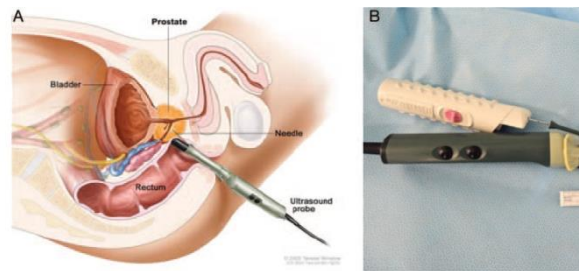
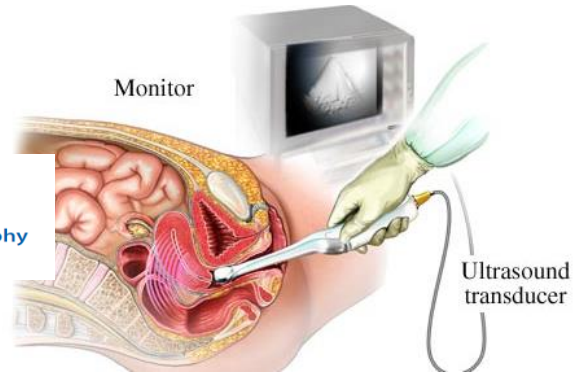
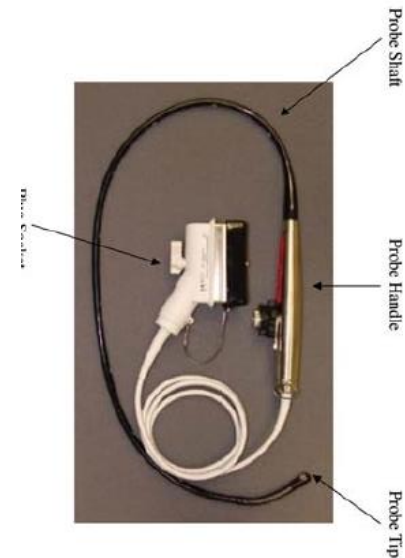


Figure 1. A, Anatomy of the male genitourinary tract in relation to transrectal ultrasound-guided prostate biopsy. C, prostate Winslow. B, Typical biopsy apparatus consisting of ultrasound probe with a protective condom (gray handle) and eagle handle.

Vol. 185, 144-147, January 2011



Infections Associated with Use of Ultrasound Transmission Gel: Proposed Guidelines to Minimize Risk

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY DECEMBER 2012, VOL. 33, NO. 12

Infection prevention and control in ultrasound - best practice recommendations from the European Society of Radiology Ultrasound Working Group

Insights Imaging (2017) 8:523–535

GEL ESTÉRIL

- Quaisquer biópsias ou punções, independentemente do sítio.
- Procedimentos/ Exames em mucosas
- Exames em pele não intacta ou com cirurgia recente.
- Cuidado de pacientes críticos e neonatos.

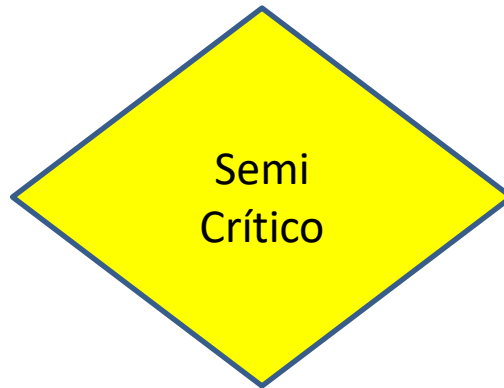
GEL NÃO ESTÉRIL

- Usar em pele intacta
- Se for em almotolia multi-uso, mantê-la fechada. Desprezar a cada dia.
- Nunca reenvasar!!
- Cuidado com o contato da ponta da almotolia. Não manter virada para baixo.
- Cuidado com banho-maria!! Calor seco é o melhor método para aquecimento.



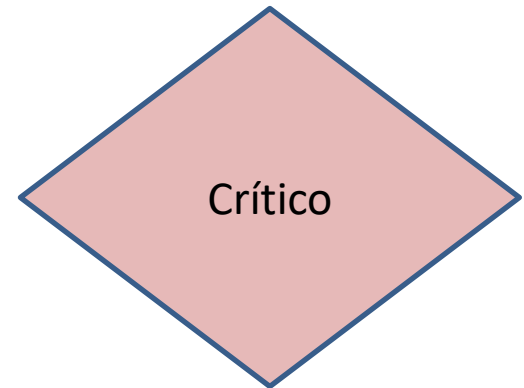
Não
Crítico

Ultrassom em pele intacta



Semi
Crítico

Ultrassom em mucosas
Transrretal
Transvaginal
ECOTE



Crítico

Ultrassom em sítios estéreis
Biópsias
Intraoperatório
FIV
Inserção de Cateter

Infectious risk of endovaginal and transrectal ultrasonography: systematic review and meta-analysis

Journal of Hospital Infection 83 (2013) 99–106

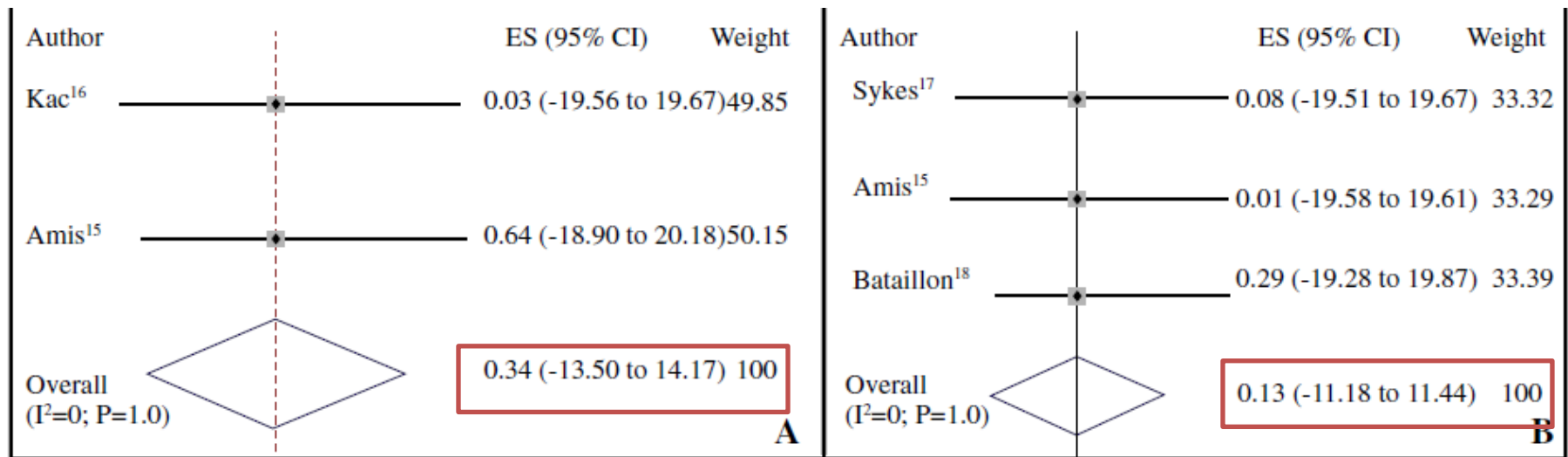


Figure 2. Forest plots showing the prevalence of contaminated probes with pathogenic bacteria (A) after removal of the probe sheath (two studies, $N = 512$ examinations), (B) after the cleaning procedure (four studies, $N = 596$ examinations) (one study¹⁴ did not appear on the plot because of zero events, but was included in the pooled calculation). ES, estimate; CI, confidence interval.

Herpes virus, HPV, CMV (496 transdutores)

19,4%

1,0%

Vaginal ultrasound probe cover leakage: implications for patient care

FERTILITY AND STERILITY®
VOL. 69, NO. 3, MARCH 1998

nation. Various reports have estimated the breakage rate of latex condoms during sexual intercourse to be between 2% and 12% (1–3).

In our series, 17 (2%) of 840 condoms were found to have perforations (Fig. 1). The mean distance from the tip to the

Condom perforation during transrectal ultrasound guided (TRUS) prostate biopsies: a potential infection risk

Int Urol Nephrol (2007) 39:1121–1124

We have demonstrated a significant condom perforation rate (9%) amongst patients undergoing prostate biopsies. This raises the serious issue of hygiene and

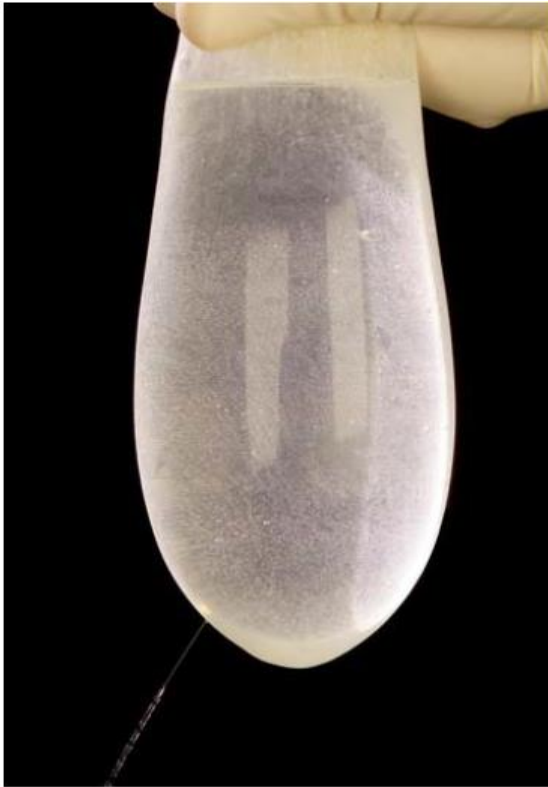


Fig. 2 A water-filled condom demonstrating a perforation caused during the procedure



Fig. 1 A standard trans-rectal ultrasound probe with externally attached biopsy apparatus

High Rates of Perforation Are Found in Endovaginal Ultrasound Probe Covers Before and After Oocyte Retrieval for *in Vitro* Fertilization-Embryo Transfer¹

Journal of Assisted Reproduction and Genetics, Vol. 12, No. 9, 1995

Table I. Perforations Found in Used Probe Covers

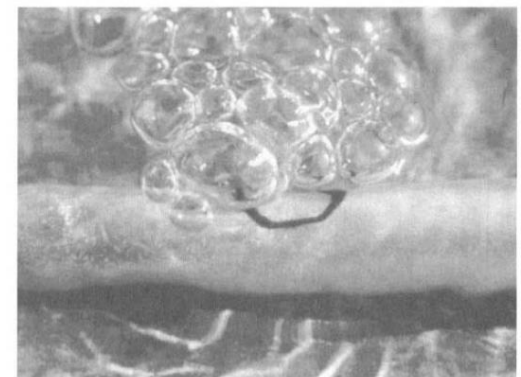
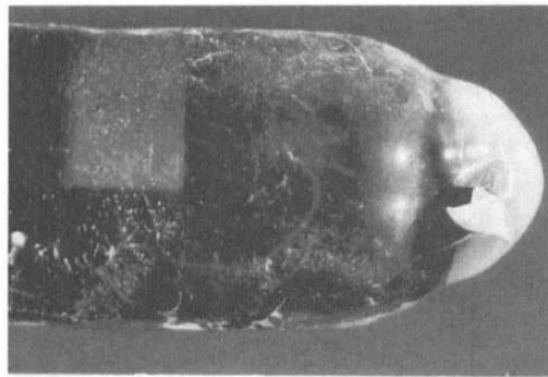
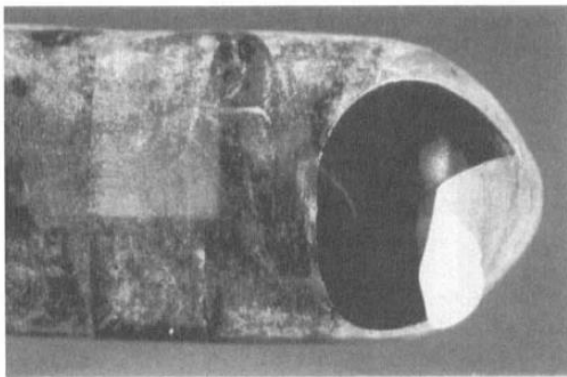
	Old Cook	New Cook	Swemed
Perforated	10 (77) ^a	5 (25)	61 (81)
Intact	3 (23)	15 (75)	14 (19)
			<i>P</i> = 0.000005

^a Numbers in parentheses are percentages (%).

Use of a Latex Cover Sheath for Transesophageal Echocardiography (TEE) Instead of Regular Disinfection of the Echoscope?

Clin. Cardiol. 16, 737-740 (1993)

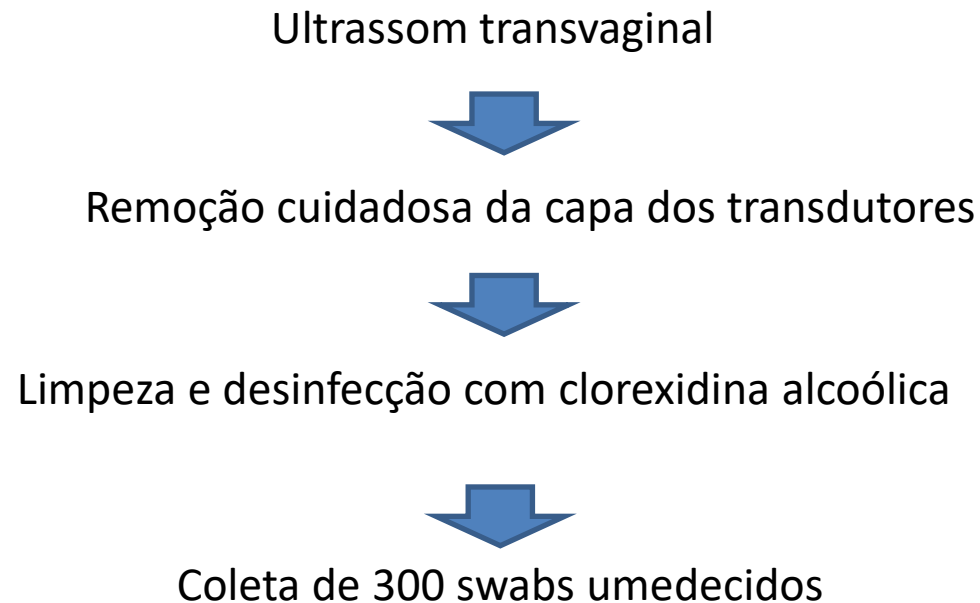
4,4% de perfurações (181 amostras)
1/3 visíveis na retirada



Persistence of Microbial Contamination on Transvaginal Ultrasound Probes despite Low-Level Disinfection Procedure

PLOS ONE April 2014 | Volume 9 | Issue 4 | e93368

- Estudo prospectivo de Abril a Setembro de 2012



Persistence of Microbial Contamination on Transvaginal Ultrasound Probes despite Low-Level Disinfection Procedure

PLOS ONE April 2014 | Volume 9 | Issue 4 | e93368

HPV, 13% (95% CI: 6–20)

7% após tratamento com DNase

C. trachomatis 20% (95% CI: 12–28)

2% após tratamento com DNase

Mycoplasma 8% (95% CI: 3–13)

4% após tratamento com DNase

Transvaginal ultrasound probe contamination by the human papillomavirus in the emergency department

Emerg Med J 2013;**30**:472–475.

- Dezembro de 2011 a Fevereiro de 2012
- Toalha de papel para tirar o gel seguido de desinfetante detergente a base de quaternário de amônia (baixo nível)

14 pacientes de 76 tiveram a pesquisa de HPV positiva.

3/14 transdutores permaneceram contaminados com HPV após a desinfecção.

High Risk HPV Contamination of Endocavity Vaginal Ultrasound Probes: An Underestimated Route of Nosocomial Infection?

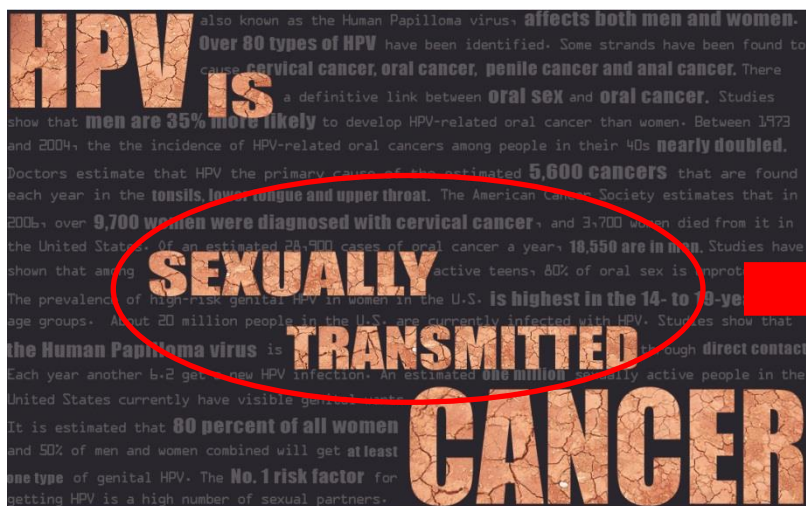
PLOS ONE October 2012 | Volume 7 | Issue 10 | e48137

- Departamento de Ginecologia do University of Lyon
- Protocolo de desinfecção: lenços de quaternário de amônio – Sani-Cloth active



- Amostras colhidas 15 minutos após a desinfecção e imediatamente antes do uso do transdutor no paciente

- Após a desinfecção: 200 amostras
3,5% de contaminação (3% de alto risco)
Um probe persistentemente contaminado em 3 amostras com HPV58
- Imediatamente antes do exame: 217 amostras
2,8% de contaminação



Desinfecção de alto nível?

Number of HPV-Associated and HPV-Attributable Cancer Cases per Year

Cancer site	Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)	Percentage probably caused by any HPV type ^a	Number probably caused by any HPV type ^a
Cervix	11,866	91%	10,751
Vagina	846	75%	635
Vulva	3,934	69%	2,707
Penis	1,269	63%	803
Anus ^b	6,530	91%	5,957
Female	4,333	93%	4,008
Male	2,197	89%	1,949
Oropharynx	18,226	70%	12,885
Female	3,412	63%	2,160
Male	14,814	72%	10,725
TOTAL	42,671	79%	33,737
Female	24,391	83%	20,260
Male	18,280	74%	13,477

^aHPV types detected in genotyping study; most were high-risk HPV types known to cause cancer (Saraiya M et al. [U.S. assessment of HPV types in cancers: implications for current and 9-valent HPV vaccines](#). [Journal of the National Cancer Institute](#) 2015;107:djv086).

^bIncludes anal and rectal squamous cell carcinomas.

Data are from population-based cancer registries participating in CDC's National Program of Cancer Registries (NPCR) and/or the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program for 2011 to 2015, covering 100% of the U.S. population.

Commission spécialisée sécurité sanitaire

**Comité technique des infections nosocomiales
et des infections liées aux soins**



Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

MINISTÈRE DE LA SANTÉ,
DE LA JEUNESSE
ET DES SPORTS

Lorsqu'une gaine de protection est utilisée et sous réserve que la sonde n'ait pas été en contact direct avec des liquides biologiques, notamment en cas de rupture de la gaine (voir ci-dessous les modalités de mise en place et de retrait d'une gaine), une désinfection de bas niveau est requise.



**Guideline for Disinfection and Sterilization
in Healthcare Facilities, 2008**

because condoms/probe covers can fail ^{195, 197-199}, the probe also should be high-level disinfected.

Estudos com até 81% de perfuração das coberturas

AVIS

relatif à la désinfection des sondes à échographie endocavitaire (SEE)

8 janvier 2016

- Une désinfection de niveau 2 ou plus dans la classification de Spaulding doit être disponible en permanence dans chaque centre réalisant des échographies endocavitaires.

Le HCSP recommande :

- **La mise en œuvre et le renforcement de mesures destinées à améliorer les mesures de désinfection des SEE.**
 - De façon générale, **poser de façon réfléchie les indications des actes d'échographie endocavitaire**, en appréciant le rapport bénéfice-risque par comparaison avec l'échographie transpariétale et dans le respect des recommandations pour la pratique clinique (RPC).

Guidance for Industry and FDA Staff

Information for Manufacturers Seeking Marketing Clearance of Diagnostic Ultrasound Systems and Transducers

Document issued on: September 9, 2008

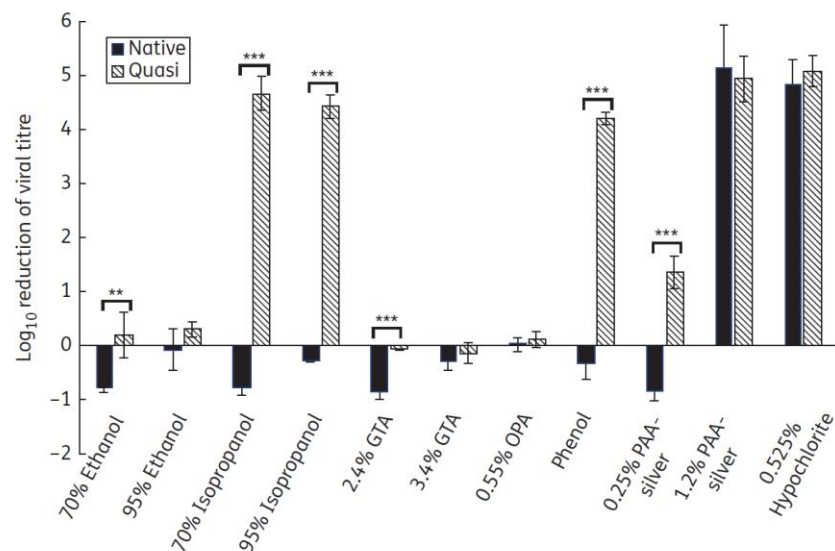
Susceptibility of high-risk human papillomavirus type 16 to clinical disinfectants

Jordan Meyers^{1†}, Eric Ryndock^{2†}, Michael J. Conway^{2§}, Craig Meyers^{2*} and Richard Robison¹

Table 1. Effectiveness of clinical disinfectants on HPV virions

Disinfectant	Native virion (log ₁₀ reduction)	±SD
70% Ethanol	−0.789	0.106
95% Ethanol	−0.076	0.481
70% Isopropanol	−0.770	0.186
95% Isopropanol	−0.272	0.023
2.4% GTA	−0.856	0.179
3.4% GTA	−0.306	0.232
0.55% OPA	0.017	0.200
Phenol	−0.319	0.220
0.25% PAA-silver	−0.857	0.220
1.2% PAA-silver	5.150	0.220
0.525% Hypochlorite	4.862	0.220

All tests were performed at least five times and the averages are



Evaluation of an automated high-level disinfection technology for ultrasound transducers

Journal of Infection and Public Health (2014) 7, 153–160



Figure 1 The ultrasound transducer disinfection device tested in this study (Trophon® EPR). This device uses hydrogen peroxide to disinfect ultrasound transducers in an automated cycle.

Susceptibility of HPV16 and 18 to High Level Disinfectants Indicated for Semi-Critical Ultrasound Probes

Journal of Medical Virology 88:1076–1080 (2016)

Eric Ryndock,¹ Richard Robison,² and Craig Meyers^{1*}

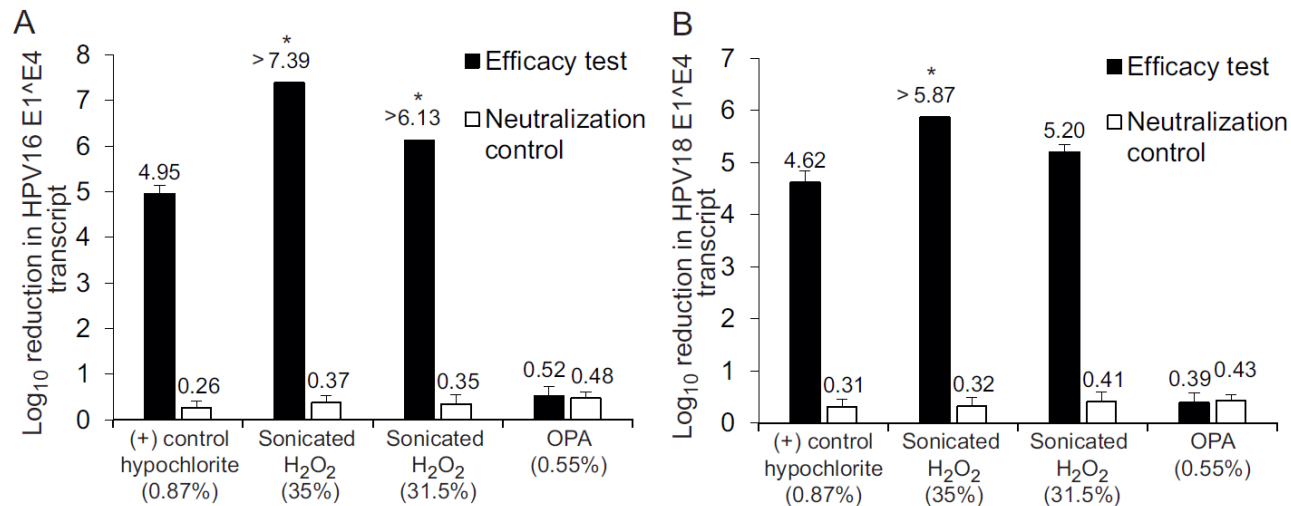
¹Department of Microbiology and Immunology, Pennsylvania State College of Medicine, Hershey, Pennsylvania

²Department of Microbiology & Molecular Biology, Brigham Young University, Provo, Utah

TABLE I. Disinfectants and Parameters Used in This Study

Method	Concentration	Contact time	Soil	High-level disinfectant	Setup
Automated device (sonicated H ₂ O ₂)	35% H ₂ O ₂	2 min ^a	5% FCS	Yes	Carriers suspended in disinfection chamber
Liquid OPA	0.55% OPA	12 min			Liquid disinfectant applied to carrier
Positive control (liquid hypochlorite)	0.87% hypochlorite	5 min		No	

^aComprised 2 cycles consisting of 30 sec of delivery and 30 sec of dwell time for a total time of 2 min.



Evaluation of a Hydrogen Peroxide-Based System for High-Level Disinfection of Vaginal Ultrasound Probes

J Ultrasound Med 2013; 32:1799–1804

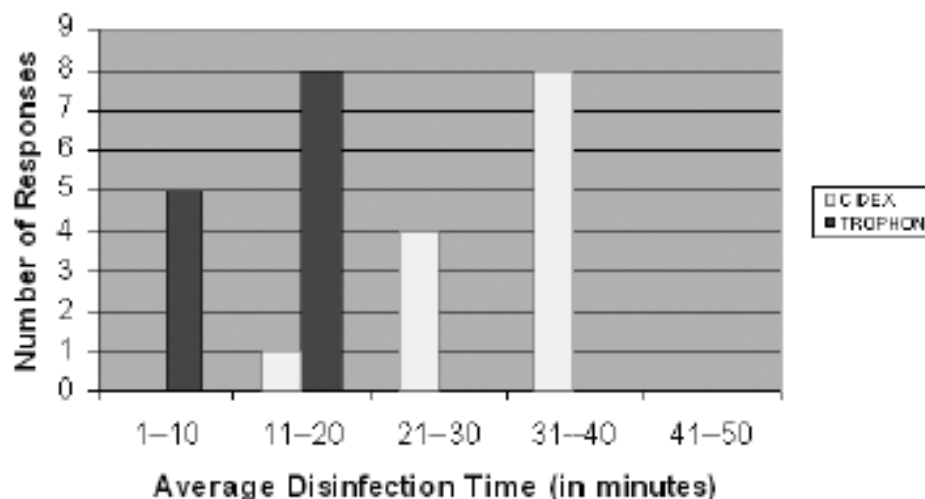


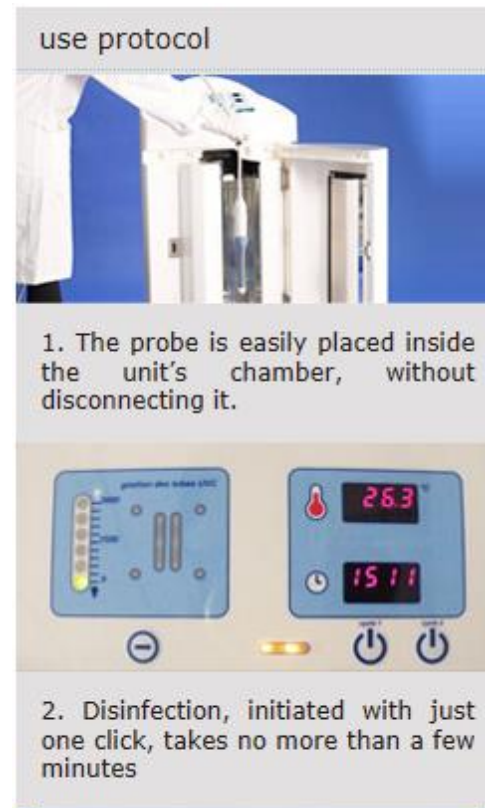
Table 3. Maintenance Cost Difference Between the Glutaraldehyde- and Hydrogen Peroxide-Based Disinfection Systems Averaged Over Various Periods

Maintenance Cost	Cidex, \$	Trophon, \$	Difference, \$
Weekly cost, 1 unit, 25 scans/wk	34.43	85.00	50.57
Monthly cost, 1 unit, 100 scans/mo	137.72	340.00	202.28
Yearly cost, 1 unit, 1200 scans/y	1,652.64	4,080.00	2,427.36

Evaluation of Ultraviolet C for Disinfection of Endocavitary Ultrasound Transducers Persistently Contaminated despite Probe Covers

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY FEBRUARY 2010, VOL. 31, NO. 2

440 pacientes após USG de próstata e transvaginal
(267 com capas e 173 com preservativo)



UVC radiation as an effective disinfectant method to inactivate human papillomaviruses

Craig Meyers^{1*}, Janice Milici¹, Richard Robison²

Citation: Meyers C, Milici J, Robison R (2017) UVC radiation as an effective disinfectant method to inactivate human papillomaviruses. PLoS ONE 12 (10): e0187377. <https://doi.org/10.1371/journal.pone.0187377>

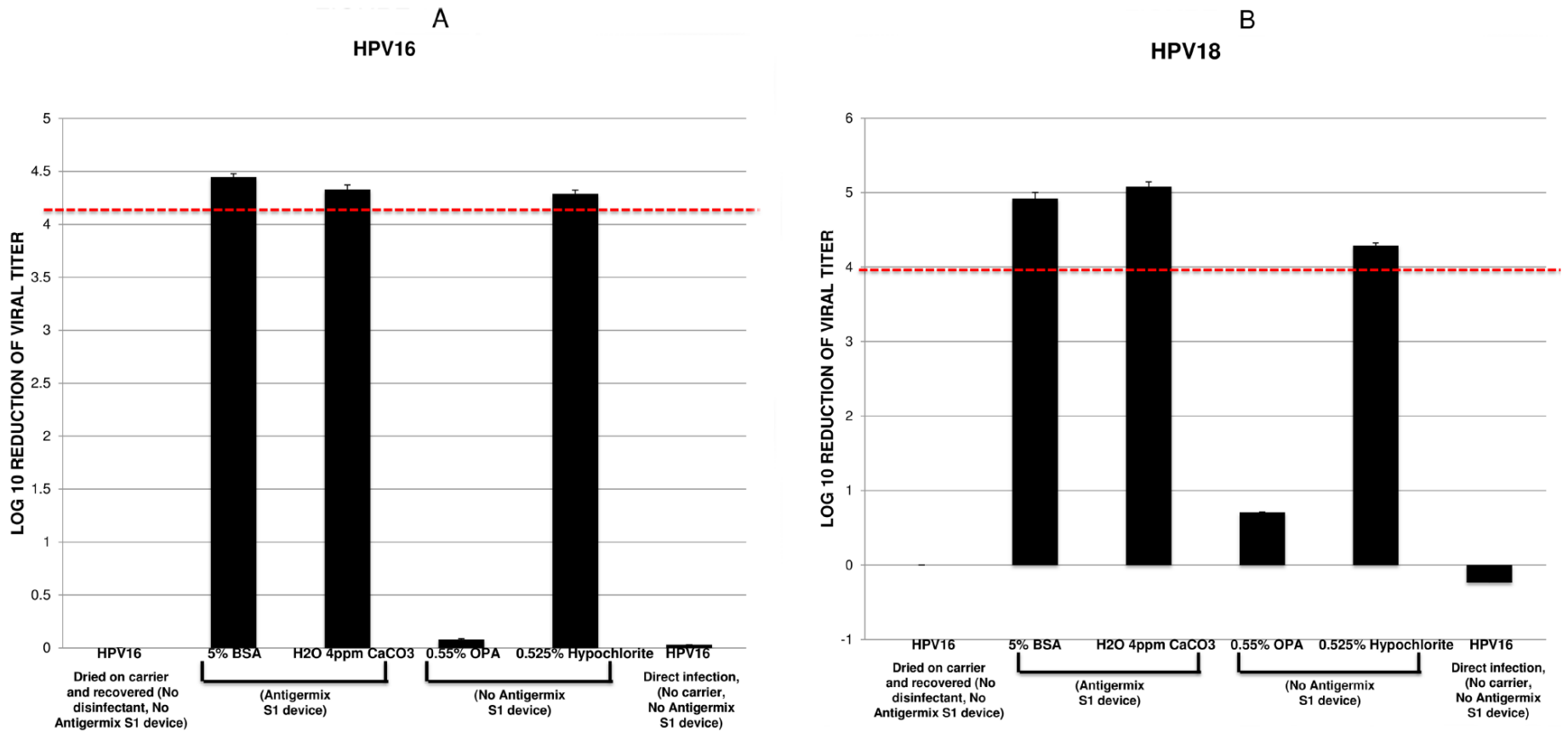


Fig 1. Differing efficacy profiles of disinfectants against HPV. HPV16 (A) or HPV18 (B) virions were subjected to hard surface carrier tests based on

- Fragilidade do aparelho

Limpeza com álcool 70° efetiva para bactérias, mas vai deteriorando o transdutor do ultrassom (linear>convexo)

Med Ultrason 2013, Vol. 15, no. 1, 41-44

- Tempo X produtividade
- Poucas soluções ativas contra HPV
- Toxicidade

INTERVENÇÃO

- Precauções
- Higiene de mãos
- Antibioticoprofilaxia
- Espaço físico
- Paramentação
- Cuidados com o dreno

Biópsias percutâneas
Biópsias de prostata
Passagem de cateter
Drenagens
percutâneas



Incidence of Infectious Complications After an Ultrasound-Guided Intervention

AJR 2010; 195:846–850

- 13534 procedimentos
- Janeiro de 2006 a Dezembro de 2007

TABLE 1: Number of Postprocedure Infections

Procedure	No. of Procedures	No. (%) of Infections
Biopsy		
Liver		
Transplant	192	2
Native	1,225	3
Subtotal liver	1,417	5 (0.35)
Kidney		
Transplant	1,527	2
Native	825	0
Subtotal kidney	2,352	2 (0.09)
Pancreas		
Transplant	97	1
Native	13	0
Subtotal pancreas	110	1 (0.91)

Lymph node	476	2 (0.42)
Pleura	24	0
Soft tissue or muscle	984	0
Abdominal or retroperitoneal mass	124	0
Total biopsies	5,487	10(0.18)
Fine-needle aspiration (FNA)		
Thyroid	1,727	0
Lymph node	334	0
Submandibular gland	27	0
Parotid	58	0
Parathyroid	38	0
Soft tissue or muscle	156	0
Total FNA	2,340	0
Fluid aspiration/thrombin injection		
Thoracentesis	2,489	0
Paracentesis	2,536	4 (0.16)
Superficial fluid aspiration	560	0
Pseudoaneurysm/thrombin injection	122	0
Total fluid aspiration/thrombin injection	5,707	4(0.07)
Overall total	13,534	14 (0.1)

Infectious Complications Following Transrectal Ultrasound-Guided Prostate Biopsy: New Challenges in the Era of Multidrug-Resistant *Escherichia coli*

Clinical Infectious Diseases Advance Access published April 12, 2013

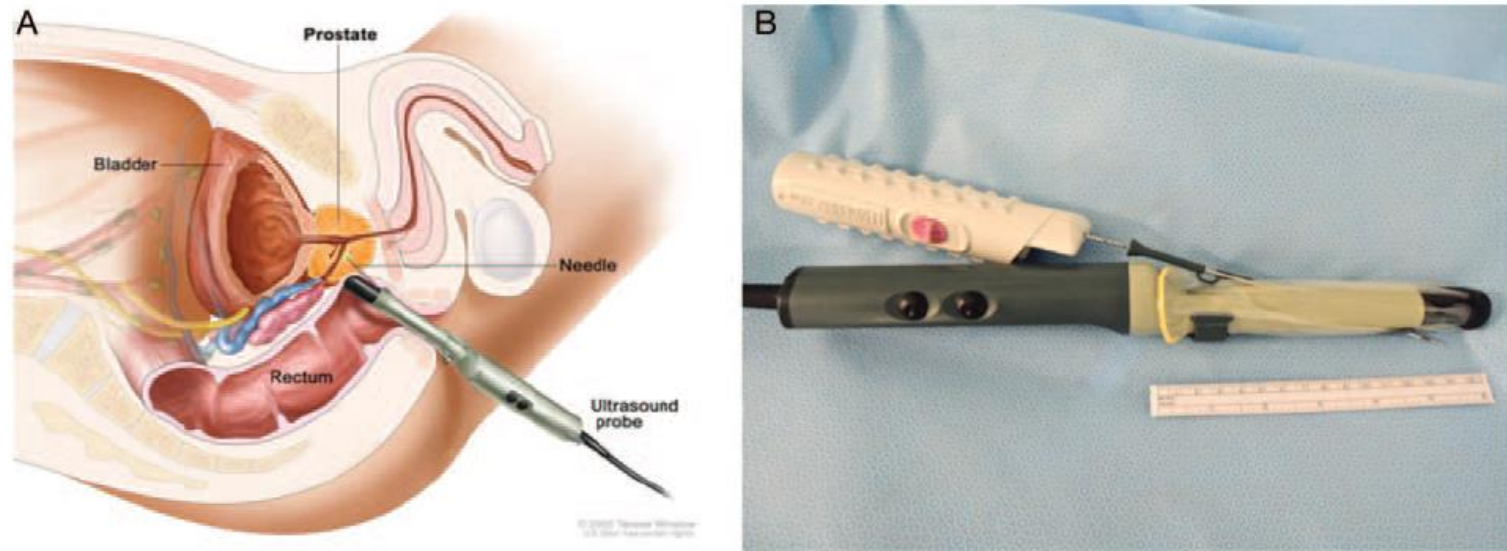


Figure 1. *A*, Anatomy of the male genitourinary tract in relation to transrectal ultrasound-guided prostate biopsy. Graphic used with permission of Terese Winslow. *B*, Typical biopsy apparatus consisting of ultrasound probe with a protective condom (gray handle) and spring-loaded sampling device (beige handle).

GEL e suporte de agulha estéreis?

- *Escherichia coli*
- 2-6% de ITU
- 0,1- 2,2% de bacteremia (16-75% quando sem antibioticoprofilaxia)

Clinical Infectious Diseases Advance Access published April 12, 2013

- 3% de incidência de complicações infecciosas pós biópsia de próstata.

Journal of Hospital Infection 83 (2013) 99–106

- O antibiótico profilático reduz risco de bacteriúria, febre, bacteremia, ITU, hospitalização

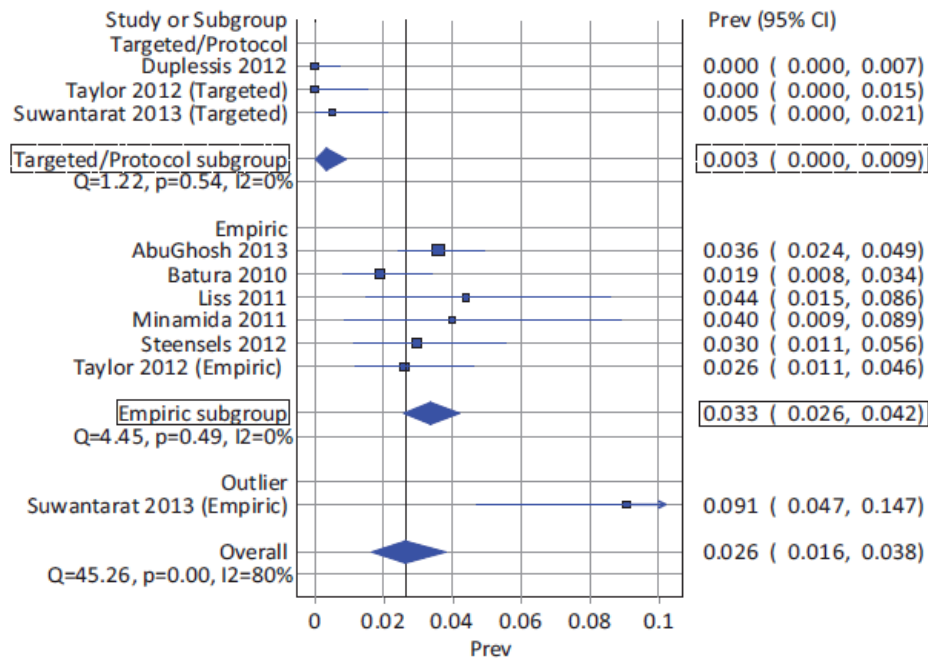


Antibiotic prophylaxis for transrectal prostate biopsy (Review)

Baseline prevalence of antimicrobial resistance and subsequent infection following prostate biopsy using empirical or altered prophylaxis: A bias-adjusted meta-analysis

International Journal of Antimicrobial Agents 43 (2014) 301–309

- Prevalência de resistência a quinolonas: 17% (15 a 20%)
- Infecção pós bx próstata em pacientes com agente R: 10%
- Infecção pós bx próstata em pacientes com agente S: 1%



**COLHER HISTÓRIA !
SWAB DE VIGILÂNCIA?**

Targeted Antimicrobial Prophylaxis Using Rectal Swab Cultures in Men Undergoing Transrectal Ultrasound Guided Prostate Biopsy is Associated With Reduced Incidence of Postoperative Infectious Complications and Cost of Care

THE JOURNAL OF UROLOGY® Vol. 187, 1275-1279, April 2012

- Prevalência de BGN resistente a quinolona na população submetida a BX próstata chega a 22%

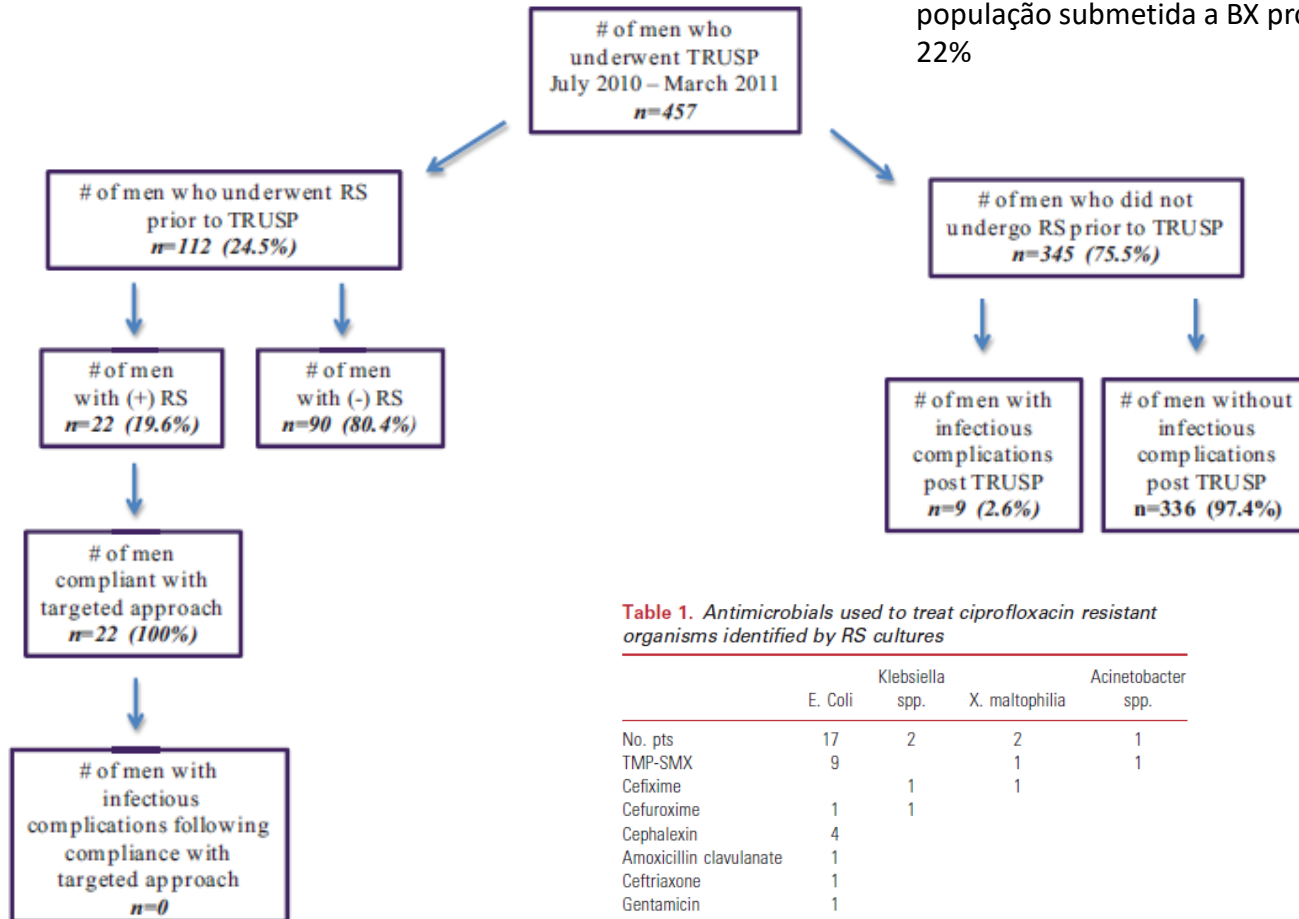


Table 1. Antimicrobials used to treat ciprofloxacin resistant organisms identified by RS cultures

	E. Coli	Klebsiella spp.	X. maltophilia	Acinetobacter spp.
No. pts	17	2	2	1
TMP-SMX	9		1	1
Cefixime		1	1	
Cefuroxime	1	1		
Cephalexin	4			
Amoxicillin clavulanate	1			
Ceftriaxone	1			
Gentamicin	1			

Ambiente

Guidelines on the facilities required for minor surgical procedures and minimal access interventions

Journal of Hospital Infection 80 (2012) 103–109





Joint Practice Guideline for Sterile Technique during Vascular and Interventional Radiology Procedures: From the Society of Interventional Radiology, Association of periOperative Registered Nurses, and Association for Radiologic and Imaging Nursing, for the Society of Interventional Radiology (Wael Saad, MD, Chair), Standards of Practice Committee, and Endorsed by the Cardiovascular Interventional Radiological Society of Europe and the Canadian Interventional Radiology Association

Chan et al ■ JVIR





Cuidados com o dreno

The screenshot shows the Fletcher Allen Health Care website. At the top left is the UW Health logo. The main navigation bar includes 'OUR SERVICES' and 'RESEARCH'. The page title is 'Health Information'. The breadcrumb trail is: Home > Services > Other Services > Specialties > Radiology > Procedures & Treatments > Areas of Expertise > Vascular & Interventional Radiology > Procedures > Drain Placement. The page content includes a 'Caring for Your Drain' section with instructions on how to flush the drain and a diagram of a 3-way stopcock. The diagram shows the stopcock with three ports: 'From flush port' at the top, 'To body' on the left, and 'Bag' on the right. The stopcock handle is labeled 'OFF' and is positioned to direct flow from the flush port to the bag.

UW Health

Fletcher Allen HEALTH CARE
In alliance with The University of Vermont

802-847-0000 | 800-358-1144

Home Find a Doctor MyHealth Online For Providers Contact Us

Keyword Search

Services Patients & Visitors Health Information Community Resources About Fletcher Allen

Home Services Other Services Specialties Radiology Procedures & Treatments Areas of Expertise
Vascular & Interventional Radiology Procedures Drain Placement

Text Size - Quick Links -

Other Services

- Specialties
 - Radiology
- Quality Reports
- Research & Clinical Trials
- Support Groups

See all services

Of Interest 2 of 2

Finding Your Way: Our Main Campus
Take a tour and learn about the benefits of a visit to Fletcher Allen - from curbside assistance to one-hour free parking to our free medical resource library.
[Watch Now](#)

Related Audio

Caring for Your Drain

This page explains how to care for the drain you had placed. Flushing your drain helps to prevent drain failure. Flush your drain as instructed each day. Or, flush it based on the schedule given to you.

If your drain has a 3-way stopcock, you can irrigate the drain without disconnecting the bag. When using a stopcock, keep in mind that the switch (which may be marked with the word "off") points to the channel that is off. On all models, the switch is the longest part of the stopcock.

To Flush the Drain

Follow these steps:

1. Turn the stopcock switch so it is pointing toward the drainage bag. This means the word "off" and/or the longest part of the stopcock is closest to the drainage bag. This position allows you to inject fluid into the tube from the flush port.

From flush port

To body **Bag**

OFF

Septic Complications of Percutaneous Transhepatic Biliary Drainage

Evaluation of a New Closed Drainage System

The American Journal of Surgery

Volume 147, March 1984

TABLE II Comparison of Bacteriologic Findings in Three Groups of Patients Undergoing Percutaneous Biliary Drainage With Different Drainage Systems

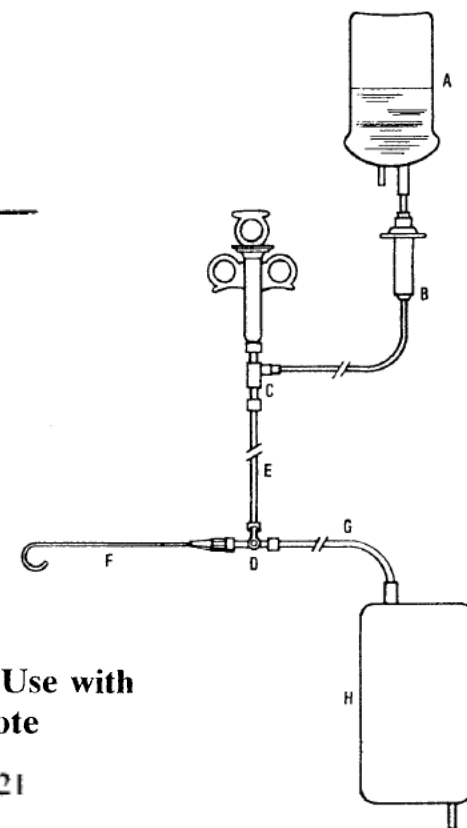
Finding	Group 1		Group 2		Group 3	
	n	%	n	%	n	%
Positive bile culture						
During PTC	6/15	40	4/16	25	4/18	22
After 20 days drainage	14/14	100	6/12	50	5/18	28
Positive blood culture						
At operation	11/13	85	7/11	64	5/14	36
Preoperative	7/15	47	3/12	25	1/18	6
Postoperative	9/13	69	3/11	27	1/14	7
Positive wound culture	11/13	85	9/11	82	3/14	21

PTC = percutaneous transhepatic cholangiography.

50 casos

A Closed Irrigation and Drainage System for Use with Percutaneous Abscess Drainage: Technical Note

Cardiovasc Intervent Radiol (1990) 13:119-121



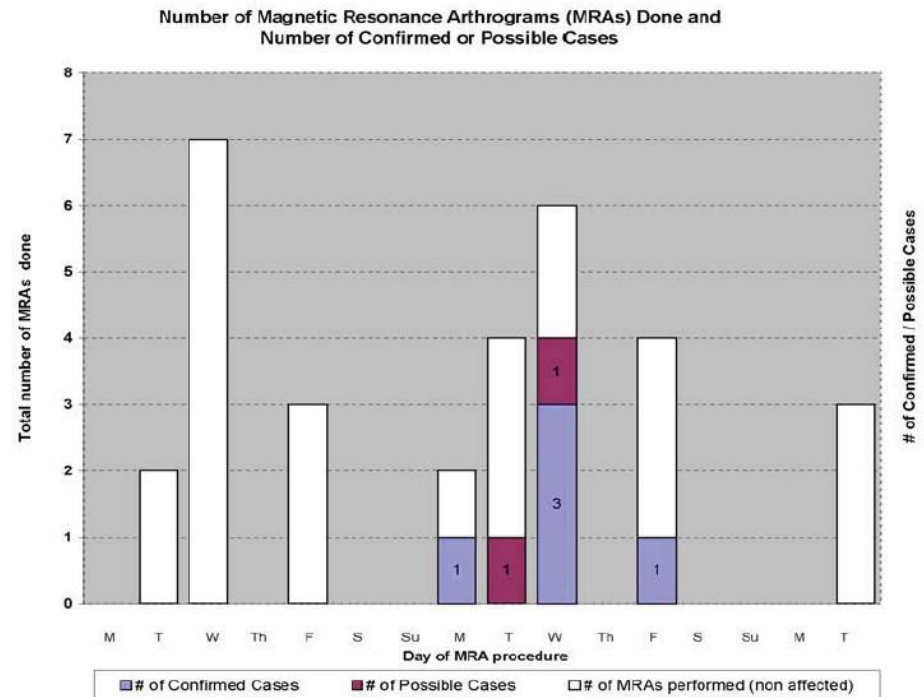
TOMOGRRAFIA/RNM

- Precauções
- Higiene de mãos
- Desinfecção dos equipamentos, superfícies
- Bombas injetoras/ Contraste
- Gel



OUTBREAK OF JOINT INFECTIONS ASSOCIATED WITH MAGNETIC RESONANCE ARTHROGRAMS PERFORMED AT AN OUTPATIENT RADIOLOGY CENTER

Acute Communicable Disease Control
2009 Special Studies Report



- Uso de contraste de dose única como multi-dose
- Quebras de técnica

Review of three magnetic resonance arthrography related infections

World J Radiol 2013 February 28; 5(2): 41-44



Figure 1 Siemens artis fluoroscopy suite. The table is set up for an upper gastrointestinal (GI) study. Note the relationship of the image intensifier to the table (arrows). The most likely cause of the infections was contamination of the image intensifier and fluoroscopy table during these studies with inadequate cleaning of the suite between GI procedures and arthrograms.

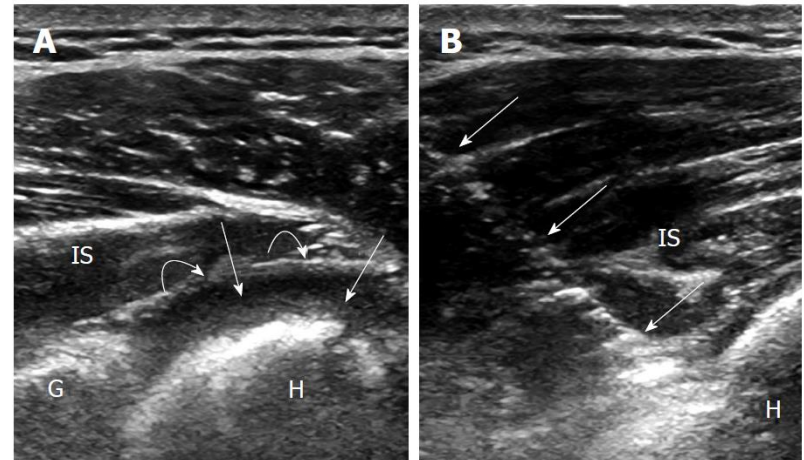
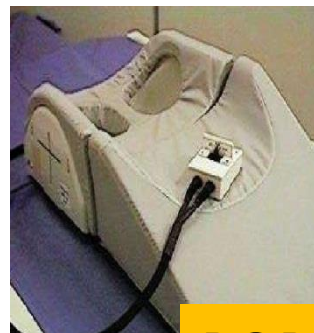


Figure 2 Ultrasound image through the posterior shoulder. A: Axial ultrasound image through the posterior shoulder shows a large joint effusion (straight arrows) with fluid between the humeral head (H) and the adjacent posterior capsule (curved arrows); B: Ultrasound guided aspiration of the posterior shoulder. Note the needle (arrows). Cultures grew *Streptococcus crista*. IS: infraspinatus; G: Posterior glenoid.

TRAVESSEIRO?



COLCHÃO?



BOBINAS?



TECLADO?

Bobina





10/03/2010 13:04

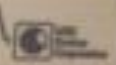



NORAB

MD: 5062 51 FN: 117221
CE
Made in Germany

10/03/2010 10:00

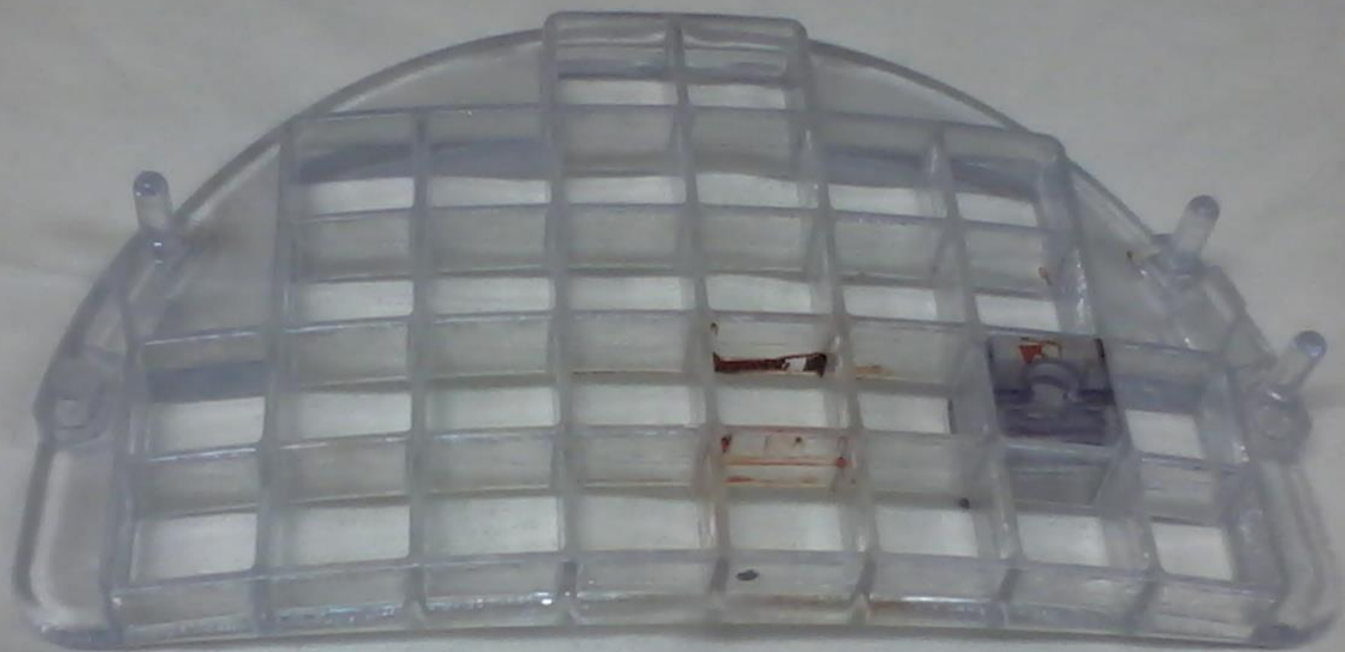


NORAS 

NO 802 51 PW 41221
SR 51 CE 
Made in Germany

10/03/2010 09:36





Limpeza

Ultrasound
2017, Vol. 25(1) 53-57



Table 3. Frequency of cleaning the ultrasound machine keyboard and cords

Cleaning frequency	Machine keyboard response % (number)	Machine cords' response % (number)
After each patient	15.14 (28)	44.09 (82)
Once a day	57.30 (106)	34.95 (65)
Once a week	14.59 (27)	10.22 (19)
Once a month	3.78 (7)	3.23 (6)
Once every six months	1.62 (3)	1.08 (2)
Never	7.57 (14)	6.45 (12)
Total	185 ^a	186 ^b

^aOf a total of 188 respondents, three skipped question.

^bOf a total of 188 respondents, two skipped question.



LOOKING GOOD!
I'LL SAIL THROUGH
THE SELF
ASSESSMENT...

