POSITION STATEMENT

Medical Gels

Revised May 13, 2021

This document was developed by IPAC Canada based on best available evidence at the time of publication to provide advice to Infection Prevention and Control Professionals. The application and use of this document are the responsibility of the user. IPAC Canada assumes no liability resulting from any such application or use.

Background

Medical gels are used routinely in clinical practice during physician exams and diagnostic procedures. Contamination of medical gels* from improper handling can result in serious health care associated infections such as bacteremia and septicaemia.[1-8,11-14] Medical gels, even bacteriostatic formulations, provide a medium for bacteria to survive and multiply.

*Medical Gels include ultrasound gels, lubricating gels, and other medicated gels.

Position Statement

To provide for safe handling of medical gels, the following is recommended.

1. INDICATIONS FOR USE OF MEDICAL GELS[1,9,10]

Indication	Single dose Sterile	Non-sterile
Percutaneous procedures where contact with the puncture site is possible, includes but is not limited to: biopsy, vascular access, or procedural pain management (e.g., steroid injection into joint).	√	
Imminent surgery may be performed regardless of body site	√	
Near a surgical wound	√	
Procedure penetrating mucous membrane	√	
Endoscopies on intact mucous membranes	√	
Non-endoscopic procedure on mucous membranes (e.g., vaginal/ rectal exam)	√	
Non-intact skin	√	
Intact skin		√
Babies in NICUs and critical pediatric patients [(11)]	√	

2. GENERAL CONSIDERATIONs

a) Sterile gel

- A new single use package of sterile gel must be used for each client.
- Single use packaging is required for sterile medical gel as once the sterile medical gel package is opened, it is no longer considered sterile.
- Sterile product must be used employing the principles of asepsis.
- Discard the opened package at end of procedure.

b) Non-sterile gels

- Nonsterile medical gel containers must never be topped up (i.e., refilled when partially empty)
- If multi-dose containers of non-sterile medical gel are used on intact skin, the container must be sealed correctly when not in use [6]
- To avoid contaminating the medical gel, use aseptic technique when removing and replacing the cap and dispensing the gel
- Tips of containers must not come into direct contact with a patient, staff, or instrumentation
- Medical gel containers should not be washed and refilled for use but should be discarded when empty[6]
- Bulk containers of medical gel are not recommended due to risk of contamination, therefore their use should be discouraged
- When a new bottle is opened, the bottle should be dated and discarded after 1 month or expiry date if earlier[9]

c) Warming of Medical Gel

- Do not warm medical gel due to the increased risk of bacterial multiplication.[14]

d) Storage of Medical Gels

- Products must be stored in clean areas where they are protected from sources of contamination such as moisture, dust, insects, etc.
- Discard the medical gel if in doubt about integrity
- Always check the expiration date. Do not use if expired.

Glossary/Definitions

As per the Canadian Standard Association (CSA):

- "SHALL" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard;

- "SHOULD" is used to express a recommendation or that which is advised but not required; and "MAY" is used to express an option or that which is permissible within the limits of the standard, an advisory or optional statement.

Stakeholders

Healthcare and other workers in acute care facilities, long-term care homes, clinical offices, and communal settings in the community

Participants in Development of Position Statement

This position statement was developed by Standards and Guidelines:

Chair: Madeleine Ashcroft

Reviewed in collaboration with the Reprocessing Interest Group

Principal Authors:

Clare Barry, Merlee Steel Rodway, Anne Augustin, Betty Ann Elford, Tina Stacey-Works, Rhianna Matschke-Neufeld, Laurie Dawn Boyer, Sonja Cobham, Sheilah Graham, Michelle Platt, Lise Runciman, Samira Kermanchi, Cindy Kelly, Donna Perron

References

1. Rutala WA, Weber DJ. Reprocessing semi critical items: Outbreaks and current issues. Am J Infect Control. 2019 Jun [cited 2021 Apr 12];47S:A79-A89. Available from https://pubmed.ncbi.nlm.nih.gov/31146856/

2. Chittick P, Russo V, Sims M, Oleszkowicz S, Sawarynski K, Powell K, et al. Outbreak of Pseudomonas Aeruginosa respiratory tract infections in cardiovascular surgery associated with contaminated ultrasound gel used for transesophageal echocardiography—Michigan, December 2011–January 2012. MMWR Morb Mortal Wkly Rep. 61:262–264. Available from https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6115a3.htm

3. Olshtain-Pops K, Block C, Temper V, Hidalgo-Grass C, Gross I, Moses AE, et al. An outbreak of Achromobacter xylosoxidans associated with ultrasound gel used during transrectal ultrasound guided prostate biopsy. J Urol. 2011 Jan [cited 2021 Apr 12];185:144–147. Available from https://pubmed.ncbi.nlm.nih.gov/21074197/

4. Shaban RZ, Maloney S, Gerrard J, Collignon P, Macbeth D, Cruickshank M, et al. Outbreak of health care-associated Burkholderia cenocepacia bacteremia and infection attributed to contaminated sterile gel used for central line insertion under ultrasound guidance and other procedures. Am J Infect Control. 2017 Sep [cited 2021 Apr

12];45(9):954-958. Available from https://www.ajicjournal.org/article/S0196-6553(17)30843-X/fulltext

5. Hell M, Abel C, Albrecht A, Wojna A, Chmelizek G, Kern JM, et al. Burkholderiacepacia - outbreak in obstetric patients due to intrinsic contamination of non-sterile ultrasound gel. BMC Proc 2011 [cited 2021 Apr 12];5(Suppl 6):O75. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3239491/

6. Oleszkowicz SC, Chittick P, Russo V, Keller P, Sims M, Band J. Infections Associated with Use of Ultrasound Transmission Gel: Proposed Guidelines to Minimize Risk. Infect Control Hosp Epidemiol. 2012 Dec [cited 2012 Apr 12];33(12):1235-1237. Available from https://pubmed.ncbi.nlm.nih.gov/23143361/

7. Gaillot O, Maruéjouls C, Abachin E, Lecuru F, Arlet G, Simonet M, et al. Nosocomial outbreak of Klebsiella pneumoniae producing SHV-5 extended-spectrum-ß-lactamase, originating from a contaminated ultrasonography coupling gel. J Clin Microbiol. 1998 May [cited 2021 Apr 12];36(5):1357-1360. Available from https://pubmed.ncbi.nlm.nih.gov/9574705/

7. Weist K, Wendt C, Petersen LR, Versmold H, Rüden H. (2000). An outbreak of pyodermas among neonates caused by ultrasound gel contaminated with methicillin-susceptible Staphylococcus aureus. Infect Cont Hosp Ep. 2000 Dec [cited 2021 Apr 12];21(12), 761-764. Available from https://elautoclave.files.wordpress.com/2019/04/2000-weist.pdf

8. Health Canada. Health Products and Food Branch. Notice to Hospitals: Important safety information on ultrasound and medical gels. 2004 Dec 14. Modified 2013 Jun 05 [cited 2021 Apr 12]. Available from https://www.healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2004/14289a-eng.php

9. Alberta Health Services. Medical gels: Best practice recommendations. 2018 Sep. Revised 2020 Jun [cited 2021 Apr 12]. Available from https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-bpg-medical-gels-info-sht-patient-care.pdf

10. Jacobson M, Wray R, Kovach D, Henry D, Speert D, Matlow A. Sustained endemicity of Burkholderia Cepacia complex in a pediatric institution, associated with contaminated ultrasound gel. Infect Cont Hosp Ep. 2006 Apr [cited 2021 Apr 12];27(4):362–366. Available at https://www.jstor.org/stable/10.1086/iche.2006.27.issue-4

11. Hutchinson J, Runge W, Mulvey M, Norris G, Yetman M, Valkova N, et al. Burkholderia cepacias infections Associated with intrinsically contaminated ultrasound gel: The role of microbial degradation of parabens. Infect Cont Hosp Ep. 2004 Apr [cited 2021 Apr 12];25(4):291-296. Available from https://pubmed.ncbi.nlm.nih.gov/15108725/

12. US Food and Drug Administration. Bacteria found in Other-Sonic generic ultrasound transmission gel poses risk of infection. 2012 Apr 12. Available from https://dhhs.ne.gov/han%20Documents/Advisory042012.pdf

13. Spratt HG, Levine, Tillman L. (2014). Physical therapy clinic therapeutic ultrasound equipment as a source for bacterial contamination. Physiother Theory Pract. 2014 [cited 2021 Apr 12]; 30(7): 507–511. Available from https://pubmed.ncbi.nlm.nih.gov/24678757/

Publication Date: April 2021
Original: March 2005
Reviewed/Revised: 2008, 2016, December 2017