

Ambulatory Hand Hygiene

This domain performs a comprehensive assessment of hand hygiene practices performed within ambulatory pediatric clinics.

Leadership Support

1 - Does clinic leadership have established goals related to hand hygiene improvement efforts?

- Yes
- No
- Unsure

Policy & Procedure

2a - Does the clinic have policies and standard operating procedures related to hand hygiene?

- Yes
- No
- Unsure

2b - What is included in the hand hygiene policies?

- Artificial fingernails (gel, shellac, dip, chipped nail polish, etc.)
- Preferential use of alcohol-based hand rub (ABHR) in most clinical situations
- Clinical scenarios requiring soap and water use over ABHR
- Hand hygiene opportunities (e.g., WHO 5 Moments of Hand Hygiene)
- Required locations for hand hygiene stations
- Facility-approved hand hygiene products
- Glove use and hand hygiene
- Jewelry (limiting wearing of rings, bracelets, watches, etc.)
- None of the above

Education & Training

3a - Does the clinic have a competency-based training program for hand hygiene?

- Yes
- No
- Unsure

3b - What is included in the hand hygiene education and training?

- Hand hygiene rationale
- Indications for hand hygiene (e.g., WHO 5 Moments of Hand Hygiene)
- Hand hygiene techniques
- Methods to maintain skin health
- Facility hand hygiene goals
- Importance of hand hygiene adherence
- Indications for glove use
- Limitations of glove use
- Frequently missed opportunities for hand hygiene in the clinic
- None

3c - Who receives hand hygiene training and education?

- Clinical healthcare personnel
- Non-clinical healthcare personnel
- Clinical Support
- Students & Trainees
- None

3d - What frequency are hand hygiene training and education provided?

- Upon hire
- Annually
- When new products and protocols are introduced
- As remediation for compliance failures
- Targeted performance improvement
- None

3e - Are healthcare personnel required to demonstrate competency following training?

- Yes
- No
- Unsure

3f - Does the clinic maintain documentation of hand hygiene competency training completion?

- Yes
- No
- Unsure

Audit & Feedback

4a - Does the clinic audit hand hygiene adherence?

- Yes
- No
- Unsure

4b - How are hand hygiene audits performed?

- Secret shopper observation
- Overt observation (direct observation and intervention)
- Healthcare Provider Self-Reports
- Patient/ Family observers (e.g., in a survey after the visit)
- Product Usage
- Other:
- None of the above

4c - What do the hand hygiene audits monitor?

- In and out of room activity
- 5 moments of hand hygiene
- Length of time hand hygiene is performed
- Method of hand hygiene
- Adherence to CDC/ WHO hand hygiene sequence
- None

4d - Does the IPC program have a target number of observations as a hand hygiene goal?

- Yes
- No
- Unsure

4e - How are those who perform hand hygiene audits trained? (Not Scored)

- An Infection Preventionist performs the training
- Via an online training course
- No formal training exists
- Other

4f - Hand hygiene data collected by IPC personnel is consistent with hand hygiene data collected by unit staff and other observers.

- Strongly Agree
- Agree
- Disagree
- Strongly disagree

4g - Do auditors provide immediate real-time feedback to healthcare personnel in the moment?

- Yes
- No
- Unsure

4h - Does the clinic utilize hand hygiene data to impact performance improvement?

- Yes
- No
- Unsure

General Practice

5 - Do healthcare personnel perform hand hygiene with soap and water when hands are visibly soiled?

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

Environment of Care

6 - Does the staff overseeing IPC practice review the facility environment for sufficient hand hygiene stations?

- Yes
- No
- Unsure

7 - Are soap, water, and sinks readily accessible in the patient care areas?

- Yes
- No
- Unsure

8 - Are ABHR dispensers readily accessible throughout the facility?

- Yes
- No
- Unsure

9 - Does the facility have posted signage promoting the hand hygiene sequence and steps in all areas where hand hygiene occurs?

- Yes
- No
- Unsure

10 - Are hand hygiene stations available and visible for patient and visitor use in the clinic? (e.g., waiting rooms)

- Yes
- No
- Unsure

11 - Is hand hygiene signage visible for patients and visitors in the clinic?

- Yes
- No
- Unsure

12 - Is the staff overseeing the IPC program involved in hand hygiene product selection?

- Yes
- No
- Unsure

13 - Are hand hygiene products in the clinic considered healthcare grade?

- Yes
- No
- Unsure

Answer Key

Leadership Support

1 - Does clinic leadership have established goals related to hand hygiene improvement efforts?

Yes → Preferred

No

Unsure

Policy & Procedure

2a - Does the clinic have policies and standard operating procedures related to hand hygiene?

Yes → Preferred

No

Unsure

2b - What is included in the hand hygiene policies? (**Select all preferred options**)

Artificial fingernails (gel, shellac, dip, chipped nail polish, etc.) – **Preferred**

Preferential use of alcohol-based hand rub (ABHR) in most clinical situations – **Preferred**

Clinical scenarios requiring soap and water use over ABHR – **Preferred**

Hand hygiene opportunities (e.g., WHO 5 Moments of Hand Hygiene) – **Preferred**

Required locations for hand hygiene stations – **Preferred**

Facility-approved hand hygiene products – **Preferred**

Glove use and hand hygiene – **Preferred**

Jewelry (limiting wearing of rings, bracelets, watches, etc.) – **Preferred**

None of the above

Education & Training

3a - Does the clinic have a competency-based training program for hand hygiene?

Yes → Preferred

No

Unsure

3b - What is included in the hand hygiene education and training? (**Select all preferred options**)

Hand hygiene rationale – **Preferred**

Indications for hand hygiene (E.g., WHO 5 Moments of Hand Hygiene) – **Preferred**

Hand hygiene techniques – **Preferred**

Methods to maintain skin health – **Preferred**

Facility hand hygiene goals – **Preferred**

Importance of hand hygiene adherence – **Preferred**

Indications for glove use – **Preferred**

Limitations of glove use – **Preferred**

Frequently missed opportunities for hand hygiene in the clinic – **Preferred**

None

3c - Who receives hand hygiene training and education? **(Select all preferred options)**

- Clinical healthcare personnel – **Preferred**
- Non-clinical healthcare personnel – **Preferred**
- Clinical Support – **Preferred**
- Students & Trainees – **Preferred Optional**
- None

3d - What frequency are hand hygiene training and education provided? **(Select all preferred options)**

- Upon hire – **Preferred**
- Annually – **Preferred**
- When new products and protocols are introduced – **Preferred**
- As remediation for compliance failures – **Preferred**
- Targeted performance improvement – **Preferred**
- None

3e - Are healthcare personnel required to demonstrate competency following training?

- Yes → Preferred**
- No
- Unsure

3f - Does the clinic maintain documentation of hand hygiene competency training completion?

- Yes → Preferred**
- No
- Unsure

Audit & Feedback

4a - Does the clinic audit hand hygiene adherence?

- Yes → Preferred**
- No
- Unsure

4b - How are hand hygiene audits performed? **(Select all preferred options)**

- Secret shopper observation – **Preferred Optional**
- Overt observation (direct observation and intervention) – **Preferred**
- Healthcare Provider Self-Reports – **Preferred Optional**
- Patient/ Family observers (e.g., in a survey after the visit) – **Preferred Optional**
- Product Usage – **Preferred Optional**
- None of the above

4c - What do the hand hygiene audits monitor? **(Select all preferred options)**

- In and out of room activity – **Preferred Optional**
- 5 moments of hand hygiene – **Preferred**
- Length of time hand hygiene is performed – **Preferred Optional**
- Method of hand hygiene – **Preferred Optional**
- Adherence to CDC/ WHO hand hygiene sequence – **Preferred**
- None

4d - Does the IPC program have a target number of observations as a hand hygiene goal?

Yes → Preferred

No

Unsure

4e - How are those who perform hand hygiene audits trained? (**Informational Only**)

An Infection Preventionist performs the training

Via an online training course

No formal training exists

Other

4f - Hand hygiene data collected by IPC personnel is consistent with hand hygiene data collected by unit staff and other observers.

Strongly Agree → Preferred

Agree → Preferred

Disagree

Strongly disagree

4g - Do auditors provide immediate, real-time feedback to healthcare personnel in the moment?

Yes → Preferred

No

Unsure

4h - Does the clinic utilize hand hygiene data to impact performance improvement?

Yes → Preferred

No

Unsure

General Practice

5 - Do healthcare personnel perform hand hygiene with soap and water when hands are visibly soiled?

Strongly Agree → Preferred

Agree → Preferred

Disagree

Strongly Disagree

6 - Does the staff overseeing IPC practice review the facility environment for sufficient hand hygiene stations?

Yes → Preferred

No

Unsure

7 - Are soap, water, and sinks readily accessible in patient care areas?

Yes → Preferred

No

Unsure

8 - Are ABHR dispensers readily accessible throughout the facility?

Yes → Preferred

No

Unsure

9 - Does the facility have posted signage promoting the hand hygiene sequence and steps in all areas where hand hygiene occurs?

Yes → Preferred

No

Unsure

10 - Are hand hygiene stations available and visible for patient and visitor use in the clinic? (e.g., waiting rooms)

Yes → Preferred

No

Unsure

11 - Is hand hygiene signage visible for patients and visitors in the clinic?

Yes → Preferred

No

Unsure

12 - Is the staff overseeing the IPC program involved in hand hygiene product selection?

Yes → Preferred

No

Unsure

13 - Are hand hygiene products in the clinic considered healthcare grade?

Yes → Preferred

No

Unsure

Guidance

Leadership Support

Core Element Description: Assessment of leadership accountability, engagement, and support of the hand hygiene program.

Free Access: Guidelines

Centers for Disease Control and Prevention. (2002) Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. MMWR 2002;51.

<https://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf>

Policy & Procedure

Core Element Description: Assessment of hand hygiene practices within the facility.

Free Access: Guidelines

World Health Organization. 2009. WHO Guidelines on Hand Hygiene in Health Care.

<https://www.who.int/publications-detail-redirect/9789241597906>

Centers for Disease Control and Prevention. (2002) Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. MMWR 2002;51.

<https://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf>

The Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases Division of Healthcare Quality Promotion. 2016. Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care. <https://www.cdc.gov/infection-control/media/pdfs/Outpatient-Guide-508.pdf>

Education & Training

Core Element Description: Assessment of education and training of healthcare personnel to appropriately perform hand hygiene as it relates to their job role.

Free Access: Guidelines

Centers for Disease Control and Prevention. (2002) Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. MMWR 2002;51.

<https://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf>

The Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases Division of Healthcare Quality Promotion. 2016. Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care. <https://www.cdc.gov/infection-control/media/pdfs/Outpatient-Guide-508.pdf>

Free Access: Resources

Centers for Disease Control and Prevention. (2021, December 21). CDC/STRIVE Infection Control Training. <https://www.cdc.gov/infection->

[control/hcp/training/strive.html?CDC_AAref_Val=https://www.cdc.gov/infectioncontrol/training/strive.html](https://www.cdc.gov/infectioncontrol/training/strive.html?CDC_AAref_Val=https://www.cdc.gov/infectioncontrol/training/strive.html)

Audit & Feedback

Core Element Description: Assessment of audit and feedback practices regarding hand hygiene practices.

Free Access: Guidelines

Centers for Disease Control and Prevention. (2002) Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. MMWR 2002;51.

<https://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf>

The Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases Division of Healthcare Quality Promotion. 2016. Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care. <https://www.cdc.gov/infection-control/media/pdfs/Outpatient-Guide-508.pdf>

Free Access: Resources

Centers for Disease Control and Prevention. (2021, December 21). CDC/STRIVE Infection Control Training. https://www.cdc.gov/infection-control/hcp/training/strive.html?CDC_AAref_Val=https://www.cdc.gov/infectioncontrol/training/strive.html

Association for Professionals in Infection Control and Epidemiology. (2015). Guide to hand hygiene programs for infection prevention. <https://apic.org/toolkits-guides-and-briefs/#implementaion-guide-7467>

General Practice

Core Element Description: Assessment of general hand hygiene practice at the facility.

Free Access: Guidelines

Centers for Disease Control and Prevention. (2002) Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. MMWR 2002;51.

<https://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf>

Healthcare Infection Control Practices Advisory Committee. (2017) Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings—Recommendations of the Healthcare Infection Control Practices Advisory Committee (HICPAC). <https://www.cdc.gov/infection-control/hcp/core-practices/index.html>

Environment of Care

Core Element Description: Assessment of the environment of care to support hand hygiene throughout the facility.

Free Access: Regulatory

Centers for Medicare and Medicaid Services. (n.d.) Hospital infection control worksheet
<https://www.cms.gov/medicare/provider-enrollment-and-certification/surveycertificationgeninfo/downloads/survey-and-cert-letter-15-12-attachment-1.pdf>

Free Access: Guidelines

The Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases, Division of Healthcare Quality Promotion. 2016. Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care. <https://www.cdc.gov/infection-control/media/pdfs/Outpatient-Guide-508.pdf>

Additional Guidance

Free Access: Regulatory

Centers for Medicare and Medicaid Services. (2021, December 21.) Spotlight.
<https://www.cms.gov/medicare/health-safety-standards/quality-safety-oversight-general-information/spotlight>

Centers for Medicare and Medicaid Services. (2015). Advanced Copy - Update to Ambulatory Surgical Center (ASC) Infection Control Surveyor Worksheet.

<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-15-43.pdf>

Occupational Safety and Health Administration. (n.d.) Hand hygiene recommendations.
<https://www.labce.com/#::~:~:text=Thoroughly%20wash%20all%20parts%20of,dry%20thoroughly%20with%20paper%20towels.>

Free Access: Guidelines

The Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases Division of Healthcare Quality Promotion. 2016. Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care. <https://www.cdc.gov/infection-control/media/pdfs/Outpatient-Guide-508.pdf>

Centers for Medicare and Medicaid Services. (2021, December 21.) Hand hygiene guidance.
<https://www.cms.gov/files/document/hand-hygiene-initiative-overview.pdf>

Ellingson, K., Haas, J.P., Aiello, A.E., Kusek, L., Maragakis, L.L., Olmsted, R.L., Perencevich, E., Polgreen, P.M., Schweizer, M.L. Trexler, P., VanAmringe, M., Yokoe, D.S., & Society for Healthcare Epidemiology of America (SHEA). (2014). Strategies to prevent healthcare-associated infections through hand hygiene. *Infection Control Hospital Epidemiology*, 35(8), 937-960.
<https://www.cambridge.org/core/services/aop-cambridge-core/content/view/955E4AAEB5DDEAC61281B9ECB5D68E4F/S0899823X00193900a.pdf/strategies-to-prevent-healthcare-associated-infections-through-hand-hygiene.pdf>
[193900a.pdf/strategies-to-prevent-healthcare-associated-infections-through-hand-hygiene.pdf](https://www.cambridge.org/core/services/aop-cambridge-core/content/view/955E4AAEB5DDEAC61281B9ECB5D68E4F/S0899823X00193900a.pdf/strategies-to-prevent-healthcare-associated-infections-through-hand-hygiene.pdf)

World Health Organization. 2009. WHO Guidelines on Hand Hygiene in Health Care.
<https://www.who.int/publications/i/item/9789241597906>

Free Access: Standards

National Fire Protection Association. (2021). NFPA 101: Life Safety Code.
<https://www.nfpa.org/codes-and-standards/nfpa-1-standard-development/1>

Association of Surgical Technologists. (2008). AST standards of practice for surgical attire, surgical scrub, and hand hygiene and hand washing.

https://www.ast.org/uploadedfiles/main_site/content/about_us/standard_surgical_attire_surgical_scrub.pdf

Free Access: Resources

Association for Professionals in Infection Control and Epidemiology. (2021, December 11). Practice resources. <https://apic.org/toolkits-guides-and-briefs/>

Association for Professionals in Infection Control and Epidemiology. (2021, December 15). Observation tools library. <https://ipobservationtools.org/observation-tools-library/>

Centers for Disease Control and Prevention. (2021, December 21.) Quick observation tools (QUOTs) for infection prevention. <https://www.cdc.gov/infection-control/media/pdfs/All-Quick-Observation-Tools-P.pdf>

Nebraska Infection Control Assessment and Prevention Program. 2018. Practice Brief. Audits. <https://icap.nebraskamed.com/wp-content/uploads/sites/2/2018/03/Practice-Briefs-Audits-7.25.17.pdf>

Centers for Disease Control and Prevention. (2021, December 21.) Fire safety and alcohol-based hand sanitizer (ABHS). https://www.cdc.gov/clean-hands/hcp/clinical-safety/?CDC_AAref_Val=https://www.cdc.gov/handhygiene/firesafety/index.html

Centers for Disease Control and Prevention. (2021, December 21.) Frequent questions about hand hygiene. https://www.cdc.gov/clean-hands/faq/index.html#cdc_faqs_cat3-hand-sanitizer-and-wipes

Centers for Disease Control and Prevention. (2021, December 21.) Hand hygiene. <https://www.cdc.gov/clean-hands/faq/index.html>

Centers for Disease Control and Prevention. (2021, December 21.) Handwashing. https://www.cdc.gov/covid/?CDC_AAref_Val=https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/handwashing.html

Centers for Disease Control and Prevention. (2021, December 21.) Healthcare providers. <https://www.cdc.gov/clean-hands/hcp/clinical-safety/index.html>

Centers for Disease Control and Prevention. (2021, December 21.) When and how to wash your hands. https://www.cdc.gov/clean-hands/about/?CDC_AAref_Val=https://www.cdc.gov/handwashing/when-how-handwashing.html

Centers for Disease Control and Prevention. (2005). Hand hygiene and other standard precautions to prevent healthcare-associated infections [PowerPoint slides]. Centers for Disease Control and Prevention. <https://www.cdc.gov/clean-hands/hcp/training/HAls-Course.html>

Cimon K, Featherstone R. (2017) Jewelry and Nail Polish Worn by Health Care Workers and the Risk of Infection Transmission: A Review of Clinical Evidence and Guidelines [Internet]. Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; 2017 Mar 3. Context and Policy Issues. <https://www.ncbi.nlm.nih.gov/books/NBK487439/>

Gardner, D., & Anderson-Manz, A. (2001). How to perform surgical hand scrubs. Infection Control Today. <https://www.infectioncontrolday.com/view/how-perform-surgical-hand-scrubs>

Nebraska Infection Control Assessment and Promotion Program (2018). Practice briefs.

<https://www.icap.nebraskamed.com/wp-content/uploads/sites/2/2018/03/Practice-Briefs-Hand-Gel-access-3.18.pdf>

Association of Perioperative Registered Nurses. (2021). Hand hygiene. Guidelines and Clinical Resources. Denver, CO: AORN, Inc. <https://aornguidelines.org/faq/content?topic=43751>

United States Food and Drug Administration. (2021, December 21). Q&A for healthcare professionals: Health care antiseptics. <https://www.fda.gov/drugs/information-drug-class/qa-health-care-professionals-health-care-antiseptics>

World Health Organization. (2006). How to hand rub. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/infection-prevention-and-control/how-to-handrub-poster.pdf?sfvrsn=f5e8bfb1_6](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/infection-prevention-and-control/how-to-handrub-poster.pdf?sfvrsn=f5e8bfb1_6)

World Health Organization. (2009). How to hand wash. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/infection-prevention-and-control/how-to-handwash-poster.pdf?sfvrsn=8ab212f0_5](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/infection-prevention-and-control/how-to-handwash-poster.pdf?sfvrsn=8ab212f0_5)

World Health Organization. (2010). Hand hygiene self-assessment framework 2010: Introduction and user instructions. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/hand-hygiene/monitoring/hhsa-framework-october-2010.pdf?sfvrsn=41ba0450_6](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/hhsa-framework-october-2010.pdf?sfvrsn=41ba0450_6)

World Health Organization. (2021, December 21). Alcohol-based hand rub risks/hazards. <https://www.who.int/news-room/questions-and-answers/item/alcohol-based-handrub-risks-hazards>

World Health Organization. (2021, December 21). Implementation tools. <https://www.who.int/teams/integrated-health-services/infection-prevention-control/hand-hygiene/implementation-tools>

World Health Organization. (n.d). Surgical hand rubbing technique. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/ssi/poster/hh-surgicala3.pdf?sfvrsn=508b7e60_2](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/ssi/poster/hh-surgicala3.pdf?sfvrsn=508b7e60_2)

World Health Organization. (n.d.) My Five Moments for Hand Hygiene Poster. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/infection-prevention-and-control/your-5-moments-for-hand-hygiene-poster.pdf?sfvrsn=83e2fb0e_16](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/infection-prevention-and-control/your-5-moments-for-hand-hygiene-poster.pdf?sfvrsn=83e2fb0e_16)

Centers for Disease Control and Prevention. (2002). Hand hygiene in healthcare settings core [PowerPoint slides]. <https://www.cdc.gov/clean-hands/media/pdfs/hand-hygiene-core-P.pdf>

World Health Organization. (n.d.) Glove use information leaflet. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/infection-prevention-and-control/hand-hygiene/tools/glove-use-information-leaflet.pdf?sfvrsn=13670aa_10&download=true](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/infection-prevention-and-control/hand-hygiene/tools/glove-use-information-leaflet.pdf?sfvrsn=13670aa_10&download=true)

Purchase Required: Guidelines

Association of Perioperative Registered Nurses. (2021). Hand Hygiene: Surgical hand antisepsis. In Guidelines for Perioperative Practice. Denver, CO: AORN, Inc. <https://www.aorn.org/guidelines-resources/guidelines-for-perioperative-practice>

Association of Perioperative Registered Nurses. (2021, March 15). Hand hygiene Audit Tool. eGuidelines+ Tools. Denver, CO: AORN, Inc. <https://www.aornguidelines.org/>

Purchase Required: Resources

D'Antonio, N.N., Rihs, J.D., Stout, J.E., & Yu, V.L. (2010). Revisiting the hand wipe versus gel rub debate: Is a higher-ethanol-content hand wipe more effective than an ethanol gel rub? *American Journal of Infection Control*, 38(9),678-682. [https://www.ajicjournal.org/article/S0196-6553\(10\)00675-9/abstract](https://www.ajicjournal.org/article/S0196-6553(10)00675-9/abstract)

Haas, J. Hand Hygiene. In Boston K.M., et al, eds. APIC Text. 2014 <https://text.apic.org/toc/basic-principles-of-infection-prevention-practice/hand-hygiene>

Knighton, S.C., Richmond, M., Xabarsky, T., Donansky, M., Rai, H., & Donskey, C.J. (2020). Patients' capability, opportunity, motivation, and perception of inpatient hand hygiene. *American Journal of Infection Control*, (48)2. 157–161. [https://www.ajicjournal.org/article/S0196-6553\(19\)30814-4/abstract](https://www.ajicjournal.org/article/S0196-6553(19)30814-4/abstract)

Larson, E., Cohen, B., & Baxter, K.A. (2012). Analysis of alcohol-based hand sanitizer delivery systems: efficacy of foam, gel, and wipes against influenza A (H1N1) virus on hands. *American Journal of Infection Control*, 40(9), 806-809. [https://www.ajicjournal.org/article/S0196-6553\(11\)01270-3/abstract](https://www.ajicjournal.org/article/S0196-6553(11)01270-3/abstract)

Ogg, M.J. (2011). First surgical hand scrub of the day. [Clinical Issues]. *Association of Perioperative Registered Nurses*, 93(3):397-398. <https://aornjournal.onlinelibrary.wiley.com/doi/abs/10.1016/j.aorn.2010.12.003>

Rai, H., Kington, S., Zabarsky, T.f., & Donskey, C.J. (2017). Comparison of ethanol hand sanitizer versus moist towelette packets for mealtime patient hand hygiene. *American Journal of Infection Control*, (45)9, 1033-1034. doi:10.1016/j.ajic.2017.03.018. [https://www.ajicjournal.org/article/S0196-6553\(17\)30240-7/abstract](https://www.ajicjournal.org/article/S0196-6553(17)30240-7/abstract)

Benudis, A., Stone, S., Sait, A.S., Mahone, I., Price, L.L., Moreno-Koehler, A., Anketell, E., & Doron, S. (2019). Pitfalls and unexpected benefits of an electronic hand hygiene monitoring system. *American Journal of Infection Control*, 47(9), 1102–1106. [https://www.ajicjournal.org/article/S0196-6553\(19\)30160-9/abstract](https://www.ajicjournal.org/article/S0196-6553(19)30160-9/abstract)