REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
1	Siegel JD, Rhinehart E, Jackson M, Chiarello L; Health Care Infection Control Practices Advisory Committee. 2007 guideline for isolation precautions: preventing transmission of infectious agents in health care settings. Am J Infect Control. 2007;35(10 Suppl 2):S65-S164.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for preventing transmission of infectious agents to patients and healthcare workers in the United States.	IVA
2	Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings—Recommendations of the Healthcare Infection Control Practices Advisory Committee (HICPAC). Atlanta, GA: Centers for Disease Control and Prevention, Healthcare Infection Control Practices Advisory Committee; 2017.	Guideline	n/a	n/a	n/a	n/a	Provides guidance on core practices to prevent infection in healthcare settings (eg aseptic technique, hand hygiene).	IVA
3	Guideline for hand hygiene. In: Guidelines for Perioperative Practice. Denver, CO: AORN, Inc; 2018:29-50.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for hand hygiene in the perioperative setting.	IVA
4	Centers for Disease Control and Prevention. 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. Society for Healthcare Epidemiology of America/Association for Professionals in Infection Control/Infectious Diseases Society of America. MMWR Recomm Rep. 2002;51(RR-16):1-45.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for hand hygiene.	IVA
5	WHO Guidelines on Hand Hygiene in Health Care. First Global Patient Safety Challenge, Clean Care Is Safer Care. Geneva, Switzerland: World Health Organization; 2009.	Guideline	n/a	n/a	n/a	n/a	Provides international guidance for hand hygiene.	IVA

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6	Guideline for environmental cleaning. In: Guidelines for Perioperative Practice. Denver, CO: AORN, Inc; 2018:7-28.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for environmental cleaning in the perioperative setting.	IVA
7	Sehulster L, Chinn RY. Guidelines for environmental infection control in health-care facilities. Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC) [published correction appears in MMWR Morb Mortal Wkly Rep. 52(42);1025-1026] MMWR Recomm Rep. 2003;52(RR-10):1-42.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for environmental infection control in health care facilities.	IVA
8	Rutala WA, Weber DJ; Healthcare Infection Control Practices Advisory Committee (HICPAC), eds. Guideline for Disinfection and Sterilization In Healthcare Facilities, 2008. Atlanta, GA: Centers for Disease Control and Prevention; 2008.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for disinfection and sterilization in health care facilities in the United States.	IVA
9	Practice Guidance for Healthcare Environmental Cleaning. 2nd ed. Chicago, IL: American Society for Healthcare Environmental Services; 2012.	Consensus	n/a	n/a	n/a	n/a	Provides guidance for environmental cleaning in the health care setting.	IVC
10	29 CFR §1910.1030: Bloodborne pathogens. Electronic Code of Federal Regulations. https://www.ecfr.gov/cgi-bin/text-idx?SID=71a8c4b5ed8145f7559e5a72e9f008df&mc=true&node=se29.6.1910_11030&rgn=div8. Accessed October 10, 2018.	Regulatory	n/a	n/a	n/a	n/a	Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens standard as amended pursuant to the Needlestick Safety and Prevention Act of 2000, which prescribes safeguards to protect workers against the health hazards caused by bloodborne pathogens.	n/a

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11	Guideline for medication safety. In: Guidelines for Perioperative Practice. Denver, CO: AORN, Inc; 2018:295-330.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for medication safety.	IVA
12	Guideline for sharps safety. In: Guidelines for Perioperative Practice. Denver, CO: AORN, Inc; 2018:415-438.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for sharps safety.	IVA
13	Guideline for a safe environment of care. In: Guidelines for Perioperative Practice. Denver, CO: AORN, Inc; 2018:243-268.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for a safe environment of care related to patients and perioperative personnel and the equipment used in the perioperative environment.	IVA
14	Bardorf MH, Jäger B, Boeckmans E, Kramer A, Assadian O. Influence of material properties on gloves' bacterial barrier efficacy in the presence of microperforation. Am J Infect Control. 2016;44(12):1645-1649.	Nonexperimental	9 types of medical gloves and 2 types of surgical gloves/ Laboratory, Europe	n/a	n/a	Bacterial passage through gloves, Glove elasticity	Bacterial passage through punctures is correlated with the stiffness or elasticity of the glove material. Gloves made of latex may have an increased protective effect in case of a glove breach. A risk-benefit assessment should be conducted, balancing the risk of allergy against the degree of required protection in case of a glove puncture.	IIIB

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15	Guidance for Industry and FDA Staff: Medical Glove Guidance Manual; 2008. US Department of Health and Human Services; Food and Drug Administration; Center for Devices and Radiological Health; Office of Device Evaluation; Division of Anesthesiology, General Hospital, Infection Control, and Dental Devices; Infection Control Devices Branch. https://www.fda.gov/downloads/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm428191.pdf. Accessed October 15, 2018.	Regulatory	n/a	n/a	n/a	n/a	FDA guidance to manufacturers on medical gloves.	VA
16	Banned devices; powdered surgeon's gloves, powdered patient examination gloves, and absorbable powder for lubricating a surgeon's glove. Final rule. Fed Regist. 2016;81(243):91722-91731.	Regulatory	n/a	n/a	n/a	n/a	FDA regulation banning powdered gloves.	n/a
17	Guideline for sterile technique. In: Guidelines for Perioperative Practice. Denver, CO: AORN, Inc; 2018:75-104	Guideline	n/a	n/a	n/a	n/a	Provides guidance for sterile technique in the perioperative setting, including selection of surgical gowns.	IVA
18	Olsen RJ, Lynch P, Coyle MB, Cummings J, Bokete T, Stamm WE. Examination gloves as barriers to hand contamination in clinical practice. JAMA. 1993;270(3):350-353.	Quasi-experimental	137 procedures	Vinyl gloves	Latex gloves	Glove leaks	Noted higher microbial contamination of the health care personnel's hands and a higher frequency of leaks with vinyl gloves compared to latex.	IIB

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19	Korniewicz DM, Kirwin M, Cresci K, et al. Barrier protection with examination gloves: double versus single. Am J Infect Control. 1994;22(1):12-15.	Quasi-experimental	886 examination gloves	Vinyl gloves	Latex gloves	Glove leaks	Vinyl gloves were much more likely to leak than latex (51.3% vs 19.7%) as demonstrated by a standardized clinical protocol designed to mimic patient care activities.	IIB
20	Korniewicz DM, ElMasri M, Broyles JM, Martin CD, O'Connell KP. Performance of latex and nonlatex medical examination gloves during simulated use. Am J Infect Control. 2002;30(2):133-138.	Quasi-experimental	5,510 medical examination gloves	1,464 nitrile, 1,052 latex, 1,006 copolymer, 1,988 vinyl	n/a	Glove failure	Vinyl and copolymer (ie, polyvinyl chloride) gloves were less effective barriers than latex and nitrile. 8.2% failure rates for the vinyl and copolymer gloves compared to 1.3% for nitrile and 2.2% for latex.	IIB
21	Rego A, Roley L. In-use barrier integrity of gloves: latex and nitrile superior to vinyl. Am J Infect Control. 1999;27(5):405-410.	Quasi-experimental	2,000 examination gloves	800 latex, 800 vinyl, 400 nitrile gloves	n/a	Glove failure	Vinyl gloves failed 12% to 61% of the time, whereas latex and nitrile had failure rates of 0% to 4% and 1% to 3%, respectively.	IIB
22	Klein RC, Party E, Gershey EL. Virus penetration of examination gloves. Biotechniques. 1990;9(2):196-199.	Quasi-experimental	Laboratory	Polyvinylchloride and polyethylene gloves	Latex gloves	Glove failure	Polyvinylchloride gloves fail to protect against virus exposure 22% of the time.	IIB

REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
23	Loveday HP, Lynam S, Singleton J, Wilson J. Clinical glove use: healthcare workers' actions and perceptions. J Hosp Infect. 2014;86(2):110-116.	Nonexperimental	125 health care workers/ Academic center, United Kingdom	n/a	n/a	Audit of glove use, semi-structured interview questions about clinical glove use	Glove use was inappropriate in 42% of episodes. In 37% of these episodes, there was a risk for cross-contamination mostly due to failure to remove gloves or with performing hand hygiene after use. The decision to wear gloves were influenced by socialization and emotion.	IIIB
24	Guidance for the Selection and Use of Personal Protective Equipment in Healthcare Settings. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Healthcare Quality Promotion (DHQP); 2010.	Expert Opinion	n/a	n/a	n/a	n/a	CDC recommendations for PPE selection and donning/doffing sequences.	VA
25	Kilinc FS. A review of isolation gowns in healthcare: fabric and gown properties. J Eng Fiber Fabr. 2015;10(3):180-190.	Expert Opinion	n/a	n/a	n/a	n/a	Isolation gowns currently available on the marketplace offer varying resistance to blood and other bodily fluids depending on the type of the material, its impermeability, and wear and tear.	VA

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26	AAMI PB70: Liquid Barrier Performance and Classification of Protective Apparel and Drapes Intended for Use in Health Care Facilities. Arlington, VA: Association for the Advancement of Medical Instrumentation; 2012.	Consensus	n/a	n/a	n/a	n/a	Establishes a system of classification for protective apparel used in health care facilities based on their liquid barrier performance to ultimately assist end-users in determining the type(s) of protective product most appropriate for a particular task or situation.	IVC
27	AAMI TIR11:2005. Selection and Use of Protective Apparel and Surgical Drapes in Health Care Facilities. Arlington, VA: Association for the Advancement of Medical Instrumentation; 2005.	Expert Opinion	n/a	n/a	n/a	n/a	Provides guidance for the selection and use of protective apparel.	VB
28	Premarket Notification Requirements Concerning Gowns Intended for Use in Health Care Settings. Guidance for Industry and Food and Drug Administration Staff; 2015. US Department of Health and Human Services; Food and Drug Administration; Center for Devices and Radiological Health; Office of Device Evaluation; Division of Anesthesiology, General Hospital, Respiratory, Infection Control, and Dental Devices. https://www.fda.gov/downloads/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm452804.pdf. Accessed October 15, 2018.	Expert Opinion	n/a	n/a	n/a	n/a	Provides guidance to industry and FDA staff on the various kinds of gowns intended to provide liquid barrier protection in health care settings.	VA

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29	Eye safety. Centers for Disease Control and Prevention. https://www.cdc.gov/niosh/topics/eye/eye-infectious.html. Updated July 29, 2013. Accessed October 10, 2018.	Expert Opinion	n/a	n/a	n/a	n/a	NIOSH expert guidance for eye protection selection and use in health care settings.	VA
30	Roberge RJ. Face shields for infection control: a review. J Occup Environ Hyg. 2016;13(4):235-242.	Expert Opinion	n/a	n/a	n/a	n/a	Guidelines for face shield use vary between governmental agencies and professional societies and little research is available regarding their efficacy. Face shields provide a barrier to body fluids and are commonly used as an alternative to goggles as they confer protection to a larger area of the face.	VB
31	Lange VR. Eyewear contamination levels in the operating room: infection risk. Am J Infect Control. 2014;42(4):446-447.	Nonexperimental	315 pieces of eyewear worn by operating room personnel participating in 71 surgical cases in 4 OR/ Hospital, United States	n/a	n/a	Microbial growth on disposable and reusable eyewear	Microbial contamination after use was found in 37.7% of disposable and 94.9% of reusable eyewear pieces. After disinfection, 74.4% of reusable eyewear also cultured positive. Disposable eyewear may reduce contamination risk.	IIIB

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32	Lakhani R, Loh Y, Zhang TT, Kothari P. A prospective study of blood splatter in ENT. Eur Arch Otorhinolaryngol. 2015;272(7):1809-1812.	Nonexperimental	102 ENT procedures/ United Kingdom	n/a	n/a	Macroscopic and microscopic blood and saliva splash marks	54% of otolaryngology procedures resulted in splash mask contamination. Tonsillectomy, the most common operation, had a splash rate of 76.9 %.	IIIB
33	ASTM F2100-11(2018): Standard Specification for Performance of Materials Used in Medical Face Masks. West Conshohocken, PA: ASTM International; 2018.	Consensus	n/a	n/a	n/a	n/a	Standard specification for performance of materials used in medical face masks.	IVC
34	Guidance for Industry and FDA Staff: Surgical Masks—Premarket Notification [510(K)] Submissions; Guidance for Industry and FDA; 2004. US Department of Health and Human Services; Food and Drug Administration; Center for Devices and Radiological Health; Division of Anesthesiology, General Hospital, Infection Control, and Dental Devices; Office of Device Evaluation. https://www.fda.gov/RegulatoryInformation/Guidances/ucm072549.htm Accessed October 15, 2018.	Expert Opinion	n/a	n/a	n/a	n/a	Provides guidance to industry and FDA staff on surgical masks and other masks including isolation and procedure masks used by health care personnel to protect the patient and healthcare personnel.	VA
35	Centers for Disease Control and Prevention (CDC). Guidelines for preventing the transmission of mycobacterium tuberculosis in health-care settings, 2005. MMWR Morb Mortal Wkly Rep. 2005;54(RR-17):1-140.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for preventing the transmission of Mycobacterium tuberculosis (TB) in health care settings.	IVA

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36	Hospital Respiratory Protection Program Toolkit: Resources for Respirator Program Administrators; 2015. DHHS (NIOSH) Publication Number 2015-117, OSHA Publication Number 3767-05 2015. https://www.osha.gov/Publications/OSHA3767.pdf. Accessed October 15, 2018.	Expert Opinion	n/a	n/a	n/a	n/a	Provides information to assist hospitals in development of effective respiratory protection programs to prevent transmission of aerosol transmissible diseases to health care personnel.	VA
37	29 CFR 1910.134: Respiratory protection. Occupational Safety and Health Administration. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=12716&p_table=standards. Accessed October 15, 2018.	Regulatory	n/a	n/a	n/a	n/a	OSHA requirements for respiratory protection	n/a
38	Benson SM, Novak DA, Ogg MJ. Proper use of surgical N95 respirators and surgical masks in the OR. AORN J. 2013;97(4):457-470.	Literature Review	n/a	n/a	n/a	n/a	Surgical masks are intended for use as a barrier to protect the wearer's face from large droplets and splashes of blood and other body fluids. Potential exposure to airborne contaminants and infectious agents necessitates the use of an N95 particulate filtering facepiece respirator (ie, surgical N95 respirator). The individual should be fit tested and trained on respirator use.	VA

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39	Respirator trusted-source information. Centers for Disease Control and Prevention. http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/RespSource.html. Accessed October 15, 2018.	Expert Opinion	n/a	n/a	n/a	n/a	Provides information on the types of respirators used in the workplace, including a listing of all NIOSH-approved and FDA-cleared surgical N95 respirators.	VA
40	Medical Devices; Exemption from Premarket Notification: Class II Devices; Surgical Apparel. Final Order. Fed Regist. 2018;83(96):22846-22848.	Regulatory	n/a	n/a	n/a	n/a	FDA final order that exempts N95 respirators from premarket notification requirements, including the 510(k) process. To qualify for this exemption, N95 manufacturers are required to have NIOSH approval, flammability testing, and testing to demonstrate the ability to resist penetration by blood and body fluids at a velocity consistent with the intended use of the device.	n/a

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41	Smith JD, MacDougall CC, Johnstone J, Copes RA, Schwartz B, Garber GE. Effectiveness of N95 respirators versus surgical masks in protecting health care workers from acute respiratory infection: a systematic review and meta-analysis. CMAJ. 2016;188(8):567-574.	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	Although N95 respirators appeared to have a protective advantage over surgical masks in laboratory settings, this metaanalysis showed that there were insufficient data to determine definitively whether N95 respirators are superior to surgical masks in protecting health care workers against transmissible acute respiratory infections in clinical settings.	IIIA
42	Suen LKP, Yang L, Ho SSK, et al. Reliability of N95 respirators for respiratory protection before, during, and after nursing procedures. Am J Infect Control. 2017;45(9):974-978.	Quasi-experimental	120 nursing students/ Hong Kong	Performance of nursing procedures for 10 minutes while wearing fitted N95 respirator	n/a	Quantitative fit test method	Body movements during nursing procedures may increase the risk of face seal leakage.	IIB
43	Guideline for surgical smoke safety. In: Guidelines for Perioperative Practice. Denver, CO: AORN, Inc; 2018:469-498.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for surgical smoke safety.	IVA

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44	Implementing Respiratory Protection Programs iIn Hospitals: A Guide for Respirator Program Administrators. Richmond, CA: Occupational Health Branch: California Department of Public Health; 2015.	Regulatory	n/a	n/a	n/a	n/a	There is some concern that exhaled air from wearers of PAPRs or APRs with exhalation valves) can flow into the sterile field. Local exhaust ventilation and adequate dilution ventilation should be used where possible at the source of aerosol generation to reduce the need for respiratory protection. Surgical respirators (without exhalation valves) should be selected for use in environments where a sterile field must be maintained. Currently, there is insufficient evidence to support the safe use of PAPRs in these environments.	n/a
45	Talbot TR, May AK, Obremskey WT, Wright PW, Daniels TL. Intraoperative patient-to-healthcare-worker transmission of invasive group A streptococcal infection. Infect Control Hosp Epidemiol. 2011;32(9):924-926.	Case Report	Group A *Streptococcus* infection transmitted from patient to surgeon/ United States	n/a	n/a	n/a	Adherence to standard precautions is important, including the removal of contaminated clothing as soon as possible after exposure and the cleaning of contaminated skin.	VB

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46	Krein SL, Mayer J, Harrod M, et al. Identification and characterization of failures in infectious agent transmission precaution practices in hospitals: a qualitative study. JAMA Intern Med. 2018;178(8):1051-1057.	Nonexperimental	325 room observations/ Academic medical center and VA hospital, United States	n/a	n/a	Number and type of failures involving use of transmission-based precautions	Active failures in PPE use and transmission-based precautions, potentially leading to self-contamination, were commonly observed. Violations involved entering rooms without some or all recommended PPE. Mistakes were frequently observed during PPE removal and encounters with challenging logistical situations, such as badge-enforced computer logins. Slips included touching one's face or clean areas with contaminated gloves or gowns.	IIIA
47	Zellmer C, Van Hoof S, Safdar N. Variation in health care worker removal of personal protective equipment. Am J Infect Control. 2015;43(7):750-751.	Nonexperimental	30 health care workers/ Academic medical center, United States	n/a	n/a	Compliance with CDC doffing protocol for PPE	Under usual conditions, only about half of health care workers correctly remove their PPE, and very few remove their PPE in the correct order and dispose of it in the proper location.	IIIC

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48	Tomas ME, Kundrapu S, Thota P, et al. Contamination of health care personnel during removal of personal protective equipment. JAMA Intern Med. 2015;175(12):1904-1910.	Quasi-experimental	435 glove and gown removal simulations/ Multicenter, United States	Education and practice in removal of contaminated PPE with immediate visual feedback based on fluorescent lotion contamination of skin and clothing	n/a	Frequency and sites of contamination on skin and clothing of personnel after removal of contaminated gloves or gowns with fluorescent lotion and bacteriophage MS2	Contamination of the skin and clothing of health care personnel occurs frequently during removal of contaminated gloves or gowns. Educational interventions that include practice with immediate visual feedback on skin and clothing contamination can significantly reduce the risk of contamination during removal of PPE.	IIA
49	Mitchell R, Roth V, Gravel D, et al. Are health care workers protected? An observational study of selection and removal of personal protective equipment in Canadian acute care hospitals. Am J Infect Control. 2013;41(3):240-244.	Nonexperimental	442 observations of health care workers using PPE/ 11 acute care hospitals, Canada	n/a	n/a	PPE selection, donning and doffing sequences, and hand hygiene	Overall adherence with appropriate PPE use involving febrile respiratory illness patients was modest. Interventions to improve PPE use should be targeted toward the use of recommended precautions (eg, eye protection), HCWs working in pediatric units, the correct sequence of PPE removal, and performing hand hygiene.	IIIB

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50	Kang J, O'Donnell JM, Colaianne B, Bircher N, Ren D, Smith KJ. Use of personal protective equipment among health care personnel: results of clinical observations and simulations. Am J Infect Control. 2017;45(1):17-23.	Nonexperimental	130 sessions with 65 health care personnel/ Academic medical center, United States	n/a	n/a	Contamination when doffing PPE, Survey questions about PPE use	PPE contamination occurred in 79.2% of the simulations. Health care personnel reported that PPE use was time consuming and cumbersome, and reported concerns about PPE effectiveness.	IIIB
51	Kwon JH, Burnham CD, Reske KA, et al. Assessment of healthcare worker protocol deviations and self-contamination during personal protective equipment donning and doffing. Infect Control Hosp Epidemiol. 2017;38(9):1077-1083.	Quasi-experimental	36 health care workers/ tertiary-care hospital, United States	Fluorescent liquid and MS2 bacteriophage applied to health care workers donning/doffing PPE for contact and Ebola precautions	n/a	Protocol deviation, fluorescence presence, bacteriophage MS2 presence	Protocol deviations were common during both EVD and CP PPE doffing, and some deviations during EVD PPE doffing were committed by the HCW doffing assistant and/or the trained observer. Self-contamination was common. PPE donning/doffing are complex and deserve additional study.	IIB

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52	Honda H, Iwata K. Personal protective equipment and improving compliance among healthcare workers in high-risk settings. Curr Opin Infect Dis. 2016;29(4):400-406.	Literature Review	n/a	n/a	n/a	n/a	Although previous studies have focused on the efficacy of PPE in preventing transmission of pathogens, recent studies have examined the dangers to HCWs during removal of PPE when risk of contamination is highest. Adherence to appropriate PPE use is a challenge due to inadequate education on its usage, technical difficulties, and tolerability of PPE in the workplace.	VA
53	Herlihey TA, Gelmi S, Flewwelling CJ, et al. Personal protective equipment for infectious disease preparedness: a human factors evaluation. Infect Control Hosp Epidemiol. 2016;37(9):1022-1028.	Nonexperimental	82 health care workers/ Canada	n/a	n/a	PPE Usability testing, Participant feedback	Healthcare institutions are encouraged to use human factors methods to identify risk and failure points with the usage of their selected PPE, and to modify on the basis of iterative evaluations with representative end users.	IIIB

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54	Doll M, Feldman M, Hartigan S, et al. Acceptability and necessity of training for optimal personal protective equipment use. Infect Control Hosp Epidemiol. 2017;38(2):226-229.	Nonexperimental	110 providers from inpatient units and emergency department/ Academic hospital, United States	n/a	n/a	Donning/doffing PPE compliance	Healthcare workers routinely self-contaminate even when using personal protective equipment. In contrast to low perceived risk, observed doffing behaviors demonstrate significant personal protective equipment technique deficits.	IIIB
55	Neo F, Edward K, Mills C. Current evidence regarding non-compliance with personal protective equipment—an integrative review to illuminate implications for nursing practice. ACORN. 2012;25(4):22-30.	Literature Review	n/a	n/a	n/a	n/a	Implications for clinical practice include the promotion of an environment that fosters teamwork and PPE use, continued commitment from managers to ensure availability and access of equipment, and the provision of sustainable in-service education related to PPE and standard precautions.	VB
56	Moore C, Edward KL, King K, Giandinoto JA. Using the team to reduce risk of blood and body fluid exposure in the perioperative setting. ORNAC J. 2015;33(4):37-46, 28-36.	Quasi-experimental	31 completed surveys from RNs/ Private hospital, Australia	Educational program	No education provided	Survey questions regarding PPE use	Team support and good leadership were identified as essential to ongoing professional knowledge and support with regards to risk minimization in the perioperative setting. The findings of this study suggest leadership was essential to PPE compliance enhancement.	IIC

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57	Verbeek JH, Ijaz S, Mischke C, et al. Personal protective equipment for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare staff. Cochrane Database Syst Rev. 2016;4:CD011621.	Systematic Review	n/a	n/a	n/a	n/a	It is unclear which type of PPE protects best, what is the best way to remove PPE, and how to make sure HCWs use PPE as instructed.	IIA
58	Tomas ME, Cadnum JL, Mana TSC, et al. Utility of a novel reflective marker visualized by flash photography for assessment of personnel contamination during removal of personal protective equipment. Infect Control Hosp Epidemiol. 2016;37(6):711-713.	Quasi-experimental	50 simulations/ Laboratory, United States	Novel reflective marker visualized using flash photography	Bacteriophage MS2	Contamination of hands and/or wrists with the reflective marker and with bacteriophage MS2	A novel reflective marker visualized using flash photography could be a useful tool to visualize and document personnel contamination during PPE removal.	IIC
59	Drew JL, Turner J, Mugele J, et al. Beating the spread: developing a simulation analog for contagious body fluids. Simul Healthc. 2016;11(2):100-105.	Quasi-experimental	3 simulations with computerized mannequins/ Laboratory, United States	UV tracer to simulate contamination	No tracer	Spread of UV tracer	The UV tracer seems to be a useful analog of contaminated bodily fluids because it spread easily and its spread decreased with the use of barrier methods. This model could be used in future studies to measure the effectiveness of different forms of PPE and to study the effectiveness of provider education on appropriately donning and doffing PPE.	IIB

REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
60	Siegel JD, Rhinehart E, Jackson M, Chiarello L; Healthcare Infection Control Practices Advisory Committee, eds. Management of Multidrug-Resistant Organisms in Healthcare Settings, 2006. Atlanta, GA: Centers for Disease Control and Prevention; 2006.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for management of MRSA, VRE, and other MDROs in health care organizations in the United States.	IVA
61	McDonald LC, Gerding DN, Johnson S, et al. Clinical practice guidelines for Clostridium difficile infection in adults and children: 2017 update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA). Clin Infect Dis. 2018;66(7):e1-e48.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for management and treatment of *C difficile* infection	IVA
62	Grewal H, Varshney K, Thomas LC, Kok J, Shetty A. Blood pressure cuffs as a vector for transmission of multi-resistant organisms: colonisation rates and effects of disinfection. Emerg Med Australas. 2013;25(3):222-226.	Nonexperimental	150 Blood pressure cuffs from 3 areas (operating theatre, emergency department, high dependency unit)/ Adult tertiary hospital, Australia	n/a	n/a	MRSA and VRE colonization	High bacterial colonization rates were detected in BP cuffs from all three areas. Although MRSA and VRE were infrequently isolated, current disinfection and infection control protocols need to be improved given the greater recovery of organisms from the inner compared with outer surfaces of BP cuffs.	IIIB

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63	John AR, Alhmidi H, Cadnum JL, Jencson AL, Gestrich S, Donskey CJ. Evaluation of the potential for electronic thermometers to contribute to spread of healthcare-associated pathogens. Am J Infect Control. 2018;46(6):708-710.	Nonexperimental	300 electronic thermometers/ 3 hospitals, United States	n/a	n/a	Presence of DNA marker	8% of handles on electronic thermometers in 3 hospitals were contaminated with 1 or more potential pathogen. A DNA marker inoculated onto the handles of electronic thermometers in hospital and long-term care facility settings spread to surfaces in patient rooms, to other types of portable equipment, and to patients' hands. Effective strategies are needed to reduce the risk for pathogen transmission by electronic thermometers.	IIIB

REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
64	Abad C, Fearday A, Safdar N. Adverse effects of isolation in hospitalised patients: a systematic review. J Hosp Infect. 2010;76(2):97-102.	Systematic Review	16 studies	n/a	n/a	n/a	Contact isolation may negatively impact several dimensions of patient care. The evidence showed a negative impact on patient mental well-being and behavior, including higher scores for depression, anxiety and anger among isolated patients. A few studies also found that healthcare workers spent less time with patients in isolation. Patient satisfaction was adversely affected by isolation if patients were kept uninformed of their healthcare. Patient safety was also negatively affected, leading to an eight-fold increase in adverse events related to supportive care failures. Patient education may be an important step to mitigate the adverse psychological effects of isolation and is recommended.	IIIB

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65	Morgan DJ, Diekema DJ, Sepkowitz K, Perencevich EN. Adverse outcomes associated with contact precautions: a review of the literature. Am J Infect Control. 2009;37(2):85-93.	Literature Review	n/a	n/a	n/a	n/a	Patients in contact precautions may experience adverse outcomes: less patient-to-health care provider contact, changes to systems of care that produce delays and more noninfectious adverse events, increased symptoms of depression and anxiety, and decreased satisfaction with care.	VA
66	Findik UY, Ozbaş Ayfer, Ikbal C, Tulay E, Topcu SY. Effects of the contact isolation application on anxiety and depression levels of the patients. Int J Nurs Pract. 2012;18(4):340-346.	Quasi-experimental	60 isolated and 57 non-isolated patients with hospital infection/ University medical center, Turkey	Contact precautions	Not in contact precautions	Anxiety and Depression as measured by the Hospital Anxiety and Depression Scale	There was no statistically significant difference between the anxiety and depression levels of the isolated and non-isolated patients. Of the patients, 86.4% of them told that they were happy to be in the isolation room. Personal attributes increased the development of depression. In contact isolated patients, personal attributes should be taken into consideration in nursing care planning to prevent development of depression.	IIC

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67	Day HR, Perencevich EN, Harris AD, et al. Depression, anxiety, and moods of hospitalized patients under contact precautions. Infect Control Hosp Epidemiol. 2013;34(3):251-258.	Quasi-experimental	1,876 medical and surgical patients/ Tertiary care hospital, United States	Contact precautions	Not in contact precautions	Anxiety and Depression as measured by the Hospital Anxiety and Depression Scale	Patients under contact precautions have more symptoms of depression and anxiety at hospital admission but do not appear to be more likely to develop depression, anxiety, or negative moods while under contact precautions. The use of contact precautions should not be restricted by the belief that contact precautions will produce more depression or anxiety.	IIA
68	Munoz-Price LS, Banach DB, Bearman G, et al. Isolation precautions for visitors. Infect Control Hosp Epidemiol. 2015;36(7):747-758.	Expert Opinion	n/a	n/a	n/a	n/a	SHEA expert guidance for use of isolation precautions by visitors.	VA
69	Olmsted RN. Pilot study of directional airflow and containment of airborne particles in the size of Mycobacterium tuberculosis in an operating room. Am J Infect Control. 2008;36(4):260-267.	Quasi-experimental	Laboratory, One OR over a 2-day period	Novel portable anteroom system (PAS)-high-efficiency particulate air (HEPA) combination unit	Freestanding portable HEPA filter units	Removal of smoke plume	The PAS-HEPA unit achieved a downward evacuation of plume, away and toward the main entry door from the sterile field. Comparatively, the portable freestanding HEPA unit inside the OR moved the plume vertically upward and directly into the breathing zone where the surgical team would be during a procedure.	IIC

REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
70	Bolyard EA, Tablan OC, Williams WW, Pearson ML, Shapiro CN, Deitchman SD. Guideline for infection control in health care personnel, 1998. Am J Infect Control. 1998;26(3):289-354.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for infection control in health care personnel.	IVA
71	Danzmann L, Gastmeier P, Schwab F, Vonberg RP. Health care workers causing large nosocomial outbreaks: a systematic review. BMC Infect Dis. 2013;13:98.	Systematic Review	1,449 patients in 152 outbreaks caused by health care workers/ International (mainly US, UK, France), 1958-2006	n/a	n/a	n/a	Outbreaks cause by health care workers are rare (<10%); screening of personnel should not be performed regularly. Awareness of carrier status significantly decreased the risk of causing large outbreaks; if certain species of microorganisms (e.g. S. aureus, HBV, S. pyogenes) are involved, the possibility of a carrier should be taken into account.	IIIA
72	Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention (CDC). Immunization of health-care personnel: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Recomm Rep. 2011;60(RR-7):1-45.	Guideline	n/a	n/a	n/a	n/a	Provides guidance for immunization of health care workers.	IVA