

Anesthesia Handoff Education/Training Resources Review

Resource Identifier	Discipline	Level Learner	Handover Type	Method of Learning	Brief Description Resource	Notes
<p>Arora V.</p> <p>Hospital handoffs for intern orientation.</p> <p>http://www.mefeedia.com/watch/31931488</p> <p>Accessed 2.25.18</p>	internal medicine	medical students residents	shift change on wards	video	4-minute video example of inadequate handoff that includes handoff pre-work, the handoff (giver and receiver), overnight events, and a clip of follow-up discussion the next morning.,	<ul style="list-style-type: none"> video example of how not to hand off could be used at intern level or for anesthesia residents during ICU rotation orientation.
<p>Aylward M.</p> <p>An interactive workshop to increase resident readiness to perform patient hand-offs. MedEdPORTAL Publications. 2012;8:9189.</p> <p>http://doi.org/10.15766/mep_2374-8265.9189</p> <p>Accessed 2.25.18</p>	internal medicine pediatrics	interns residents	shift change on wards	didactic video	90-minute workshop for intern orientation for medicine and med-peds residents. Includes workshop materials, hand off video, case presentation, and instructor guide. 26%increase in resident readiness to perform handoffs after workshop training.	<ul style="list-style-type: none"> internal medicine specific-includes primary team, long call and night float resources. short, inexpensive, seems easy to run designed for resident orientation some educational objectives cross disciplines “manage the environment around them to facilitate safe and effective handoff” “Use ‘if...then’ statements to provide anticipatory guidance around ‘to-do’ items. 5 minute video that shows very good, realistic IM sign-out and would be effective contrast to Arora video
<p>Calaman S, Hepps JH, Bismilla Z, Carraccio C, et al.</p> <p>The creation of standard-setting videos to support faculty observation of learner performance and entrustment decisions.</p> <p>Acad Med 2016;92(2):204-209.</p>	pediatrics	faculty	shift change on wards	peer-review article video	<p>Peer reviewed manuscript describes standard-setting videos designed to portray all five milestone levels of a handoff. Each item on the handoff assessment form is based on a competency (e.g., patient care, interpersonal and communication skills) and each item has five behavioral descriptors representing the five levels from novice to expert. The videos were developed and validated to be used for faculty development tools to help faculty to prepare for their role as handoff observers. The final versions of these videos are available from the authors by request.</p> <p>Correspondence should be addressed to Sharon Calaman, St. Christopher’s Hospital for Children, 160 E. Erie Ave., Philadelphia, PA 19134; telephone: (215) 427-8846; e-mail: Sharon.calaman@drexelmed.edu.</p>	<ul style="list-style-type: none"> paper describes authors’ experience in creating standard-setting videos. gives framework for other organizations interested in creating local videos scenarios are mapped to milestones within framework of GME competencies would need to obtain from authors to further vet videos could be used in the ICU or adapted for other anesthesia-related handovers
<p>Calaman S, Hepps J, Spector N, et al.</p> <p>I-PASS Handoff Curriculum: Handoff Simulation Exercises. MedEdPORTAL. 2013</p> <p>www.mededportal.org/publication/9402.</p> <p>Accessed 2.25.18</p>	pediatrics	residents faculty	shift change on wards	simulation	Provides simulation scenarios using IPASS construct. The role-plays allow practice with the techniques and include resident and faculty feedback to help learners refine the skills learned and place them in context. Three role-plays involve performing an I-PASS handoff with a giver, receiver, and observer	<ul style="list-style-type: none"> well-developed could potentially be adapted to intraoperative handover or OR-PACU, OR-ICU handover

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Chen JG, Mistry KP, Wright MC, Turner DA. Postoperative handoff communication: a simulation-based training method. Simul Health 2010;5(4):242-7.	pediatric critical care	multi-professional	OR to ICU	simulation	Description of 2 high-fidelity simulation scenarios of post-cardiac surgery patients going to PICU	<ul style="list-style-type: none"> Scenarios focus on the receiver as embedded participants are surgeon and anesthesiologist could be used to develop similar scenarios for multi-disciplinary teams in OR to ICU handovers
Davis J, Roach C, Elliot C, Mardis M, Justice EM, Riesenberg L Feedback and assessment tools for handoffs: A systematic review JGME 2017; 9(1): 18-32	multiple	medical students residents	multiple	peer-review article	Systematic review of assessments/tools to evaluate trainee handoff skills yielded 26 articles and 32 tools for inpatient handoffs.	<ul style="list-style-type: none"> multiple references here for different types of handoff tool assessments annotated Bib of tools included as online supplement is a helpful summary
Drachsler H, Kicken W, van der Klink M, Stoyanov S, Boshuizen HP, BarachP. The Handover Toolbox: a knowledge exchange and training platform for improving patient care BMJ Qual Saf 2012; 21(Suppl 1): 114-20. http://patient-project.eu/?page_id=120 . Accessed 2.25.18	multiple	multi-professional	multiple	didactic simulation	Online resource to develop/design and implement training related to handovers based on European collaborative network	<ul style="list-style-type: none"> 144-page manual for training purposes including 1) needs assessment, simulation methodology and scenarios, tools, and technology Available in other languages May be useful on an institutional level
Emergency Medicine Patient Safety Foundation. Safer Sign Out . http://safersignout.com/ . Accessed 2.25.18	emergency medicine	faculty	shift change	reading material video	Downloadable toolkit for emergency rooms interested in standardizing and evaluating the initiation of a handover process. It provides introductory letter, necessary resources including a video to help implement this tool within an emergency room, pre- and post-intervention evaluation, and other materials to enhance buy-in from providers. Download requires registration but materials are for free.	<ul style="list-style-type: none"> high quality resources, some of which could be adapted to another handoff mnemonic and implementation. Could be adapted to ICU or PACU shift-to-shift or break relief (See Appendix for copy of SAFER Sign Out tool)
Esildsen M, Bonsall J, Miller M, Ohuabunwa U, Payne C. Handover and care transitions training for internal medicine residents. http://doi.org/10.15766/mep_2374-8265.9101 Accessed 2.25.18	Internal medicine	interns residents	shift change on wards	didactic simulation	Description of a two-hour curriculum designed to improve discharge and handovers during shift change. Curriculum uses the 2HANDOVER mnemonic. This resource includes a video (4.38 minutes) of bad vs good handoff, facilitator guides, example cases for role-play, lecture handout, two PowerPoint presentations (for intern orientation and one for residents) focused on the mnemonic, and a pocket card	<ul style="list-style-type: none"> comprehensive resource for orientation of residents could be adapted to be used for ICU shift-to-shift see Appendix for copy of mnemonic)
Goldsmith A.	Physical	medical	shift change on wards	reading	This reference describes a 90-minute evidence-based	<ul style="list-style-type: none"> could be adapted for any introductory

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<p>Handling the handoff: An evidence-based approach</p> <p>http://doi.org/10.15766/mep_2374-8265.10035</p> <p>Accessed 2.25.18</p>	medicine and rehab	students residents		didactic	workshop related to handoff communication and best practices. It includes pre-reading material, a didactic component, and then a team-based quiz.	session on handovers
<p>Higgins JA</p> <p>Team-Based Simulation for Medical Student Handoff Education</p> <p>https://doi.org/10.15766/mep_2374-8265.10486</p> <p>Accessed 2.25.18</p>	pediatrics	medical students	shift change on wards ED to inpatient ward	didactic simulation	Large group didactic session followed by small groups for simulation-based training. Includes cases, discussion guide, I-PASS mnemonic, and session slides. Simulations progress from a Pediatrician to the ED physician to Inpatient and includes an observer component.	<ul style="list-style-type: none"> teaches I-PASS
<p>Institute for Healthcare Improvement.</p> <p>ISHAPED patient-centered approach to nurse shift change bedside report.</p> <p>http://www.ihl.org/resources/Pages/Tools/ISHAPEDPatientCenteredNurseShiftChangeBedsideReport.aspx</p> <p>Accessed 2.25.18</p>	ward nursing	nurses	bedside shift change	Instruction	IHI online tools and resources to implement a quality improvement, handover-related change in nursing culture to incorporate patient- and family-centered handoff during shift change.	<ul style="list-style-type: none"> Mnemonic is ISHAPED From Inova Health System Must create IHI login to access material
<p>I-PASS: better handoffs, safer care website.</p> <p>I-PASS Patient Safety Institute</p> <p>http://ipassstudygroup.com/home</p> <p>https://ipassinstitute.com/</p> <p>Accessed 2.25.18</p>	pediatrics	multi-professional	all handoffs	didactic simulation	Interactive, online, didactic, and simulation training. Includes a faculty guide, self- assessment tool, and other resources.	<ul style="list-style-type: none"> All I-PASS materials are available free. Could be used if you used the I-PASS mnemonic or an adaptation of I-PASS.
<p>Joint Commission Center for Transforming Healthcare.</p> <p>Targeted solutions tool for hand-off communications.</p> <p>http://www.centerfortransforminghealthcare.org/tst_hoc.aspx</p> <p>Accessed 2.25.18</p>	all	multi-professional	all handoffs	evaluation tools	Provides tools to assess current handoff process, tools to support measurement and data collection, and guidelines for most handoff communication processes. You must develop a team and plan to use resources.	<ul style="list-style-type: none"> Useful at an institutional level to evaluate handoff procedures and identify areas for improvement

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<p>Kessler CS, Afshar Y, Sardar G, Yudkowsky R, Ankel F, Schwartz A.</p> <p>A prospective, randomized, controlled study demonstrating a novel, effective model of transfer of care between physicians: the 5 Cs of consultation.</p> <p>Acad Emerg Med 2012; 19:968-974.</p>	emergency medicine	residents	consultative calls	peer-reviewed article	Describes an intervention of a 90-minuted educational activity provided to emergency medicine residents to improve a consultative phone conversation. Provides educational intervention described with a table of the 5 Cs of Consultation on pages 969-971. The C's consist of contact, communicate, core question, collaboration, closing the loop.	<ul style="list-style-type: none"> Useful in a variety of clinical settings Not specifically a handover
<p>Martin S, Farnan J, DeKosky A, Gangopadhyaya A, McConville J, Arora V.</p> <p>UPDATED: a signout audit tool to address ACGME milestones and entrustable professional activities in patient handoffs.</p> <p>https://www.mededportal.org/publication/9726/</p> <p>Accessed 2.25.18</p>	internal medicine	residents	shift change on wards	didactic simulation	This resource describes a workshop for internal medicine residents to improve quality of written handoffs and to demonstrate competency entrustable professional activity related to managing transitions of care.	<ul style="list-style-type: none"> includes a core workshop, handoff simulation exercises, faculty observation tools, a campaign toolkit, and faculty development resources. may be useful for ICU transitions of care
<p>McQueen-Shadfar L, Taekman J.</p> <p>Say what you mean to say: improving patient handoffs in the operating room and beyond.</p> <p>Simul Healthc 2010;5(4):248-253.</p>	pediatrics	multi-professional various levels	Intraoperative OR-PACU	simulation	The resource describes a high-fidelity simulation and provides all material needed for a perioperative pediatric handoff simulation training module. It also includes learning objectives, study questions, and debriefing information.	<ul style="list-style-type: none"> useful curricular addition to anesthesiology simulation curricula uses Team STEPPS constructs
<p>O'Toole J, Calaman S, Everhart J, et al.</p> <p>I-PASS handoff curriculum: medical student workshop.</p> <p>http://doi.org/10.15766/mep_2374-8265.9854</p> <p>Accessed 2.25.18</p>	pediatrics	Medical students	shift-change on wards	didactic simulation	This resource describes a workshop for novice learners, namely medical students, as an adjunct to I-PASS for residents. It includes a workshop, simulation exercises, and tools for observation.	<ul style="list-style-type: none"> could be adapted to another mnemonic or different audience.
<p>O'Toole J, Sectish T, Starmer A, et al.</p> <p>I-PASS handoff curriculum: faculty development resources.</p> <p>https://www.mededportal.org/publication/9540</p> <p>Accessed 2.25.18</p>	pediatrics	faculty	shift change on wards	didactic online module evaluation tools	3-hour module to train the trainer for becoming a champion of I-Pass	<ul style="list-style-type: none"> Methodology can be used for any type of handover in which we need to train the trainer.

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<p>Pound, A.</p> <p>Effective and safe patient handoffs</p> <p>https://cdemcurriculum.com/effective-and-safe-patient-handoffs/</p> <p>Accessed 2.25.18</p>	emergency medicine	medical student	shift change in ER	Online reading	Very basic reading on handover, geared towards medical students and from a website that hosts other clinical curricula for EM	<ul style="list-style-type: none"> • SBAR • Very basic
<p>Reyes J, Greenberg L, Lesky L</p> <p>ACCEPT medical student handoff workshop: the patient safety curriculum starts in undergraduate medical education.</p> <p>http://doi.org/10.15766/mep_2374-8265.10302</p> <p>Accessed 2.25.18</p>	internal medicine	medical student	shift change on wards	Didactic	Workshop for medical students for introduction to and use of written and oral handovers with a post-workshop survey/assessment	<ul style="list-style-type: none"> • developed at GWU • mnemonic ACCEPT • rudimentary, geared toward the wards. • may be useful in developing workshops but very basic structure and function.
<p>Rosenbluth G, Patel S, Destino L, et al.</p> <p>I-PASS Handoff Curriculum: Campaign Toolkit.</p> <p>www.mededportal.org/publication/9397</p> <p>Accessed 2.25.18</p>	pediatrics	faculty	shift change on wards	instructional support materials	Includes the I-PASS Campaign materials that were designed to ensure successful I-PASS implementation at other institutions. There is an Implementation Workbook and Curriculum Log provided that give practical step-by-step instructions regarding I-PASS planning, development, and implementation. Includes 3-hour retreat materials, speaker notes, standard-size pocket reference cards, screen frames for computer monitors, and posters for work areas.	<ul style="list-style-type: none"> • As with other I-PASS materials this could be adapted to another mnemonic or different audience.
<p>Royce CS, Atkins KM, Mendiola M, Ricciotti H.</p> <p>Teaching patient handoffs to medical students in obstetrics and gynecology: simulation curriculum and assessment tool</p> <p>http://doi.org/10.15766/mep_2374-8265.10479</p> <p>Accessed 2.25.18</p>	obstetrics gynecology	<p>medical students</p> <p>interns</p>	shift change on wards	<p>didactic</p> <p>simulation</p>	Simulation-based training method that includes handoff training with simulation guide, educational slides, and assessment and debrief tools. The simulation curriculum teaches patient handoffs in the context of a simulated obstetric emergency and teaches management of first-trimester bleeding with acute blood loss. It could be adapted to allow advanced learners to practice obtaining informed consent. Includes speaker notes, two 45-minute didactic sessions: one on handoffs and one on management of first-trimester bleeding.	<ul style="list-style-type: none"> • Uses SBAR mnemonic • Training in context of an emergency
<p>Spector N et al.</p> <p>I-PASS handoff curriculum: core resident workshop</p> <p>https://www.mededportal.org/publication/9311/</p> <p>Accessed 2.25.18</p>	Pediatric	residents	shift change on wards	<p>didactic</p> <p>simulation</p>	Materials for a 2-hour I-PASS didactic, interactive session, and 1-hour simulation. Includes curriculum goals and objectives for residents, instructor guide, resident workshop facilitator evaluation, interactive guide for the facilitator, instructor guide, workshop slides and videos.	<ul style="list-style-type: none"> • As with other I-PASS materials this could be adapted to another mnemonic or different audience.

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<p>Starmer A, Landrigan C, Srivastava R, et al.</p> <p>I-PASS Handoff Curriculum: Faculty Observation Tools</p> <p>www.mededportal.org/publication/9570</p> <p>Accessed 2.25.18</p>	pediatrics	faculty	shift change on wards	reading material	This resource provides the faculty with an assessment tool that has construct validity for observation and delivery of feedback of resident handovers in real time with the suggestion that observation/assessment should be done once weekly to maintain competency.	Downloadable assessment tools useful in real time for observation and feedback. May be modified for other learners and types of handover.
<p>TeamSTEPPS Fundamentals Course: Module 3. Communication.</p> <p>Agency for Healthcare Research and Quality</p> <p>http://www.ahrq.gov/teamstepps/instructor/fundamentals/module3/igcommunication.html</p> <p>Accessed 2.25.18</p>	any	any	any	<p>didactic</p> <p>video</p>	This is a module within TeamSTEPPS that specifically addresses communication. Within the powerpoint there is a discussion of why communication is important, aspects of good communication, and examples of mnemonics for handovers.	<ul style="list-style-type: none"> • Basic information for the healthcare providers. • Several mnemonics featured (SBAR, IPASS)
<p>TeamSteps Inpatient Surgical: Handoff</p> <p>Agency for Healthcare Research and Quality</p> <p>http://www.ahrq.gov/teamstepps/instructor/videos/ts_ISHandoff/INPTSURG-768.html</p> <p>Accessed 2.25.18</p>	any	any	any	video	This video is a summary of the TeamSTEPPS modules available on the AHRQ website	<ul style="list-style-type: none"> • 1:36 video
<p>Weinger MB, Slagle JM, Kuntz AH, et al.</p> <p>A multimodal intervention improves postanesthesia care unit handovers</p> <p>Anesth Analg 2015;121:957-971.</p>	anesthesiology	multi-professional	OR to PACU	<p>video</p> <p>simulation</p>	Peer-reviewed article describing a multi-modal intervention in one PACU (adult and pedi) of anesthesia providers and PACU nurses. The intervention caused improved handover communication greater than 3 years since the intervention itself.	<ul style="list-style-type: none"> • Anesthesia-specific curriculum • standardized handover form, didactic in form of webinar, simulation scenarios, and a feedback tool. • simulation scenarios are available at http://download.lww.com/wolterskluwer_vitalstream.com/PermaLink/AA/B/AA_2015_02_10_WEINGER_AAJ-D-15-00545_SDC2.pdf
<p>Wohlauer MV, Arora VM, Horwitz LI, et al.</p> <p>The patient handoff: a comprehensive curricular blueprint for resident education to improve continuity of care</p> <p>Acad Med 2012;87(4):411-418.</p>	any	residents	any	peer-reviewed manuscript	Based on a conference in 2010 called Handovers and Handoffs: Collaborating in turns, this small working group summarized its work in a review-like manuscript to define handover, discuss barriers, solutions to improve handoffs, strategies for educating residents, and describe a "curriculum blueprint" for other institutions to use upon which to bae their own, local education. Review of the literature as it relates to level of resident and ACGME competency	<ul style="list-style-type: none"> • Curricular guide for developing a locally relevant curriculum at GME level.
<p>Young JQ, O'Sullivan PS,</p>	any	any	any	pictorial on	1 page pictorial of what cognitive load theory is and how it	<ul style="list-style-type: none"> • Useful in any curricular design

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Ruddick V, Irby DM, ten Cate O. Improving handoffs curricula: instructional techniques from cognitive load theory Acad Med 2017;92(5):7-19.				cognitive load theory	can affect handover communication. The resource gives strategies to educators on how to minimize cognitive load during handover education.	
YouTube Handoff Videos						
Communication handoff: PACU to inpatient. https://www.youtube.com/watch?v=Q2ZtB4HSiYU Accessed 2.25.18	nursing	staff nurse	PACU to floor	video demonstration	3.16-minute video demonstrating a good bedside face-to-face PACU to inpatient handoff	<ul style="list-style-type: none"> • SBAR • Patient and family-centered
Correct clinical handover https://www.youtube.com/watch?v=Rn6r_hFWP0Q Accessed 2.25.18	nursing	staff nurse	shift change on wards	video demonstration	4.42-minute video showing a bad and a good face-to-face bedside handoff.	
Do's and don'ts of patient handoffs https://www.youtube.com/watch?v=dOm7SxFZCG8 Accessed 2.25.18	hospitalist	residents faculty	shift change on wards	video interview	3.12-minute video describing 3 Do's and one Don't focused on hospitalist handoffs	<ul style="list-style-type: none"> • should not just rely on the electronic medical record • should do a verbal handoff • EHR-based tools for local needs • keep the handoff focused.
ISBAR handover: PACU to Ward https://www.youtube.com/watch?v=7qhOtyPZ7mY Accessed 2.25.18	nurses	staff nurse	PACU to floor	video demonstration	8 minute video describing using ISBAR in a variety of ward situations	<ul style="list-style-type: none"> • Video also describes an app and how to use the app.
OR nurse shift change using SBAR-situation, background, assessment, recommendation https://www.youtube.com/watch?v=aYZx118rkXA Accessed 2.25.18	OR nurses	staff nurses	intraoperative handover	video demonstration	VA training video of SBAR with demonstration of how shift change occurs by nurses in OR.	<ul style="list-style-type: none"> • Good basic video demonstrating SBAR for nurses in the OR • Useful for OR Shift change.
Patient handoffs: a typical day on the wards https://www.youtube.com/watch?v=JzCdoQEYHkY&t=37s Accessed 2.25.18	internal medicine	residents	shift change on wards	video demonstration	3:45-minute video of an ineffective shift-to-shift handoff with negative patient consequences	<ul style="list-style-type: none"> • inadequate shift-to-shift handoff can result in negative healthcare receiver and patient consequences.

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Patient handoffs: PASSONS https://www.youtube.com/watch?v=wSyV5F6m-VU Accessed 2.25.18	internal medicine	residents	shift change on wards	video demonstration	2:20-minute video of an effective shift-to-shift handoff	<ul style="list-style-type: none"> • Good example of an effective shift-to-shift handoff that also demonstrates good handoff receiver readback. • Uses the PASSONS mnemonic.
Patient handoffs: what to do, what not to do https://www.youtube.com/watch?v=O4x0Rk_r-rs Accessed 2.25.18	internal medicine	residents	shift change on wards	video demonstration	Videos made by residents for residents demonstrating the basic do's and don'ts of giving handovers.	<ul style="list-style-type: none"> • SIGNOUT mnemonic • Overall good video but demonstrates very basic and obvious behaviors. • Great at the medical student level.
PACU: the handoff https://www.youtube.com/watch?v=3HhXz5QhDzw Accessed 2.25.18	perioperative	multi-professional	OR to PACU handoff	video demonstration	3-min video demonstrating a PACU handover using a CVA	<ul style="list-style-type: none"> • local mnemonic that is used in the video • Overall concise video demonstrating a good handover. • Useful for a resident level curriculum
Resident sign-out/handoff https://www.youtube.com/watch?v=hJTjCsPT6q8 Accessed 2.25.18	pediatrics	residents	shift change on wards	video demonstration	2 ½ minute video demonstrating a rushed and incomplete handover	<ul style="list-style-type: none"> • Video shows poor handover. • Video is of ok quality and value.
VCU health: the patient handoff https://www.youtube.com/watch?v=FDCI3xLDXAw Accessed 2.25.18	any	any	shift change on wards	video demonstration	5 minute video demonstrating downstream effects of distractions during handovers	<ul style="list-style-type: none"> • Video is ok but very rudimentary. • Good for the medical student level.