



**Nevada
Hospital
Association**



Safe Patient Handling and Mobility: A Toolkit for Program Development

Section 10 SPHM Resources

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The **Safe Patient Handling and Mobility: A Toolkit for Program Development** offers comprehensive guidance and resources to assist hospitals and other healthcare organizations in establishing and sustaining effective safe patient handling and mobility (SPHM) programs.

The complete toolkit can be accessed at <https://www.nvha.net/safe-patient-handling-and-mobility-toolkit/>

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Safe Patient Handling and Mobility – Section 10

SPHM Resources

Introduction

This section offers a comprehensive collection of articles and downloadable resources designed to support the development, implementation, and ongoing maintenance of Safe Patient Handling and Mobility (SPHM) programs across diverse healthcare environments.

Information is provided in the following categories:

- SPHM General Resources: Includes links to other toolkits and websites offering a wide range of programmatic and instructional tools relevant to all healthcare settings. These resources provide additional, relevant information pertaining to the SPHM topics listed in this section.
- Ergonomics Resources, Analysis Tools and Courses
- Resources by:
 - SPHM Program Component as outlined in this Toolkit
 - Acute Care Specialty Areas
 - Other Healthcare Environments – Outpatient Facilities, Emergency Medical Services, Long Term Care, and Home Health Care
- Health Care Education Institutions - Resources related to integration of SPHM into curricula
- Exoskeletons & Robotics and Patient Handling
- Selected General Patient Safety Information - Early Mobility, Pressure Injury and Fall Prevention, and Missed Nursing Care to support broader patient safety initiatives within SPHM programs

For further information, please refer to the individual toolkit sections. These sections contain additional resources and reference materials.

It is important to note that some resources and articles cited in this section were published more than ten years ago. Despite their publication date, these materials have been included because they continue to provide valuable and relevant information applicable to current practices.

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SPHM General Resources

Books

Gallagher, A. (2017). **The manual handling revolution: How health professionals can achieve creative solutions for people with disabilities and their caregivers**. Risk Managed Australia Pty Ltd.

Gallagher, A., & Small, E. (2021). **SmartCare: How in-home aged care providers can mitigate risk, maximise their workforce and deliver quality care**. ISBN: 1922553484, 9781922553485.
<https://riskmanaged.com.au/>

Gallagher, S. (2013). **Implementation guide to the safe patient handling and mobility interprofessional national standards**. American Nurses Association.

Gallagher, S. (2015). **A practical guide to bariatric safe patient handling & mobility**. Visioning Publishers LLC.

Hignett, S., Hignett, S., Crumpton, E., et al. (2002). **Evidence-based patient handling: Tasks, equipment, and interventions**. Psychology Press.

International Organization for Standardization. (2012). ISO/TR 12296:2012 **Ergonomics—Manual handling of people in the healthcare sector**. Geneva, Switzerland: ISO www.iso.org

MacGregor, H. (2016). **Moving and handling patients at a glance**. Wiley-Blackwell. ISBN: 978-1-118-85343-6

Marras, W. S. (2008). **The working back: A systems view**. John Wiley & Sons, Inc.

McGill, S., 2015. **Low back disorders: Evidence-based prevention and rehabilitation**. 3rd edition (4th edition coming soon) Human Kinetics, Windsor, Canada

National Back Exchange UK

<https://www.nationalbackexchange.org/publications>

- Moving and handling in the community and residential care
- Safer moving and handling in the perioperative environment
- Moving and handling of plus size people
- Manual handling of children (2nd edition)
- Dementia care

Nelson, A. (Ed.). (2006). **Safe patient handling and movement: A practical guide for health care professionals**. Springer Publishing.

Nelson, A. L., Motacki, K., & Menzel, N. (2009). **The illustrated guide to safe patient handling and movement**. Springer.

Nelson, A., & Baptiste, A. S. (2006). Evidence-based practices for safe patient handling and movement. **Orthopaedic Nursing**, 25(6), 366-379.

Smith, J., Simpson, P., & Fray, M. (Eds) (2023). **HOP7: The guide to handling of people**. Person-centered practice <https://backcare.org.uk/hop7m/hop-purchase/>

The Joint Commission. (2012). **Improving patient and worker safety: Opportunities for synergy, collaboration and innovation**. <https://www.patientcarelink.org/wp-content/uploads/2021/02/6-TJC-ImprovingPatientAndWorkerSafety-Monographpdf.pdf>

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Journals

International Journal of SPHM and Falls Management. Visioning Publishing, FL.
<https://sphmjournal.com/>

White Papers

AIHA, ASPHP, & ANA. (2024, November). **Safe patient handling and mobility (SPHM): A process to protect health care workers and recipients. White paper.** Falls Church, VA: American Industrial Hygiene Association, Association of Safe Patient Handling Professionals, & American Nurses Association.
<https://www.aiha.org/education/white-papers/safe-patient-handling-and-mobility-sphm-a-process-to-protect-health-care-workers-and-recipients>

Association of Safe Patient Handling Professionals, Inc. (2023, March). **Safe patient handling and mobility (SPHM) education in health care student curriculum: A white paper.** Warrendale, PA.
<https://asphp.org/wp-content/uploads/2023/03/SPHM-Curriculum-White-Paper-March-2023.pdf>

Human Factors and Ergonomics Society. (2023). **Prevention of musculoskeletal disorders in healthcare workers: Safe patient handling and mobility programs.** Washington, DC.
<https://www.hfes.org/Portals/0/Safe%20Patient%20Handling%20and%20Mobility.pdf>

Toolkits and Guidance

Occupational Safety and Health Agency (OSHA)

OSHA - General

All About OSHA 3302-12R 2024 (2024)
https://www.osha.gov/sites/default/files/publications/all_about_OSHA.pdf

OSH Act of 1970 – General Duty Clause <https://www.osha.gov/laws-regs/oshact/section5-duties>
1904.7 - General recording criteria. Regulations (Standards - 29 CFR) 1904 Recording and Reporting Occupational Injuries and Illnesses. (1978, July 21; 1997, August 22; 2001, January 19)
<https://www.osha.gov/laws-regs/regulations/standardnumber/1904/1904.7>

OSHA Log of Work-Related Injuries and Illnesses (OSHA Form 300 and 301)
<https://www.osha.gov/recordkeeping/>

Inspection guidance for inpatient healthcare settings (2015, June 25).. <https://www.osha.gov/laws-regs/standardinterpretations/2015-06-25-0>

OSHA Technical Manual (OTM) Section VII: Chapter 1. Back Disorders and Injuries (ND).
<https://www.osha.gov/otm/section-7-ergonomics/chapter-1>

Business Case for Safety and Health <https://www.osha.gov/businesscase>

Recommended Practices for Safety and Health Programs – webpage with resources
<https://www.osha.gov/safety-management/additional-resources-by-topic>

Using leading indicators to improve safety and health outcomes OSHA 3970 June 2019
<https://www.osha.gov/leading-indicators>

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OSHA Worker Safety in Health Care

Healthcare – numerous resources <https://www.osha.gov/healthcare/>

Worker Safety in Hospitals Caring for our Caregivers <https://www.osha.gov/hospitals>

- **Understanding the Problem** – Facts and Self-Assessment Tools and Resources
<https://www.osha.gov/hospitals/understanding-problem>
- **Safety & Health Management Systems** – Safety management tools
<https://www.osha.gov/hospitals/mgmt-tools-resources>
- **Hospital eTool** <https://www.osha.gov/etools/hospitals>
 - [Administration](#)
 - [Central Sterile Supply](#)
 - [Clinical Services](#)
 - [Emergency Department](#)
 - [Facilities Management](#)
 - [Food Services](#)
 - [Heliport](#)
 - [Hospital-wide Hazards – including](#)
 - [Safety and Health Management Systems and Programs](#)
 - [Work-related Musculoskeletal Disorders](#) by specific hospital areas
 - [Biological Hazards – Infectious Diseases](#)
 - [Housekeeping/Cleaning](#)
 - [Recordkeeping](#)
 - [Electrical Safety](#)
 - [Housekeeping](#)
 - [Laboratory](#)
 - [Laundry](#)
 - [Patient Care Unit](#)
 - [Pharmacy](#)
 - [Surgical Suite](#)
- [Fire Hazards](#)
- [Hazardous Chemicals](#)
- [Glutaraldehyde](#)
- [Latex Allergy](#)
- [Noise](#)
- [Mercury](#)
- [Slips/Trips/Falls](#)
- [Work-related Stress](#)
- [Workplace Violence](#)

Nursing Homes and Personal Care Facilities <https://www.osha.gov/nursing-home>

Home Healthcare <https://www.osha.gov/home-healthcare>

OSHA – SPHM

Worker Safety in Hospitals Caring for our Caregivers - Safe Patient Handling

<https://www.osha.gov/hospitals/patient-handling> Numerous Tools and Resources

Safe Patient Handling

- [MSD Assessment](#)
- [Management Support](#)
- [Policy / Program Development](#)
- [Facility & Patient Needs Assessment](#)
- [Facilitating Change](#)
- [Safe Patient Handling Equipment](#)
- [Education & Training](#)
- [Program Evaluation](#)

Healthcare – Safe Patient Handling <https://www.osha.gov/healthcare/safe-patient-handling>

Links to multiple tools

- [Hazards and Solutions](#)
- [Training and Additional Resources](#)

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- [State Legislation](#)
- [Starting a Safe Patient Handling Program](#)

Ergonomics: Prevention of musculoskeletal disorders in the workplace. (n.d.). Numerous resources <https://www.osha.gov/ergonomics>

Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders. OSHA Publication 3182, (2003, Revised March 2009). https://www.osha.gov/sites/default/files/publications/final_nh_guidelines.pdf

OSHA vs. Beverly Enterprises Stipulation and Settlement Agreement. OSHA, 2002. <https://www.osha.gov/enforcement/cwsa/beverly-enterprises-inc-02262002>

OSHA and Worker Safety Handling with Care Practicing: Safe Patient Handling. The Joint Commission (TJC), 2017. https://lhatrustfunds.com/assets/uploads/documents/11-Pages_from_ECN_20_2017_08-2.pdf

National Institute for Occupational Safety and Health (NIOSH)

SPHM & Ergonomics

About Safe Patient Handling and Mobility Multiple Resources <https://www.cdc.gov/niosh/healthcare/prevention/sphm.html>

Applications manual for the revised NIOSH lifting equation (DHHS [NIOSH] Publication No. 94-110, Revised 9/2021). (1994/2021). Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. https://doi.org/10.26616/NIOSH_PUB94110_revised092021

Caring for Yourself While Caring for Others (2015). Training for Homecare Workers DHHS (NIOSH) Publication No. 2015-102. <https://www.cdc.gov/niosh/docs/2015-102/default.html>

Elements of Ergonomics Programs. <https://www.cdc.gov/niosh/ergonomics/ergo-programs/index.html>

Ergonomics and Musculoskeletal Disorders <https://www.cdc.gov/niosh/ergonomics/>

Healthcare Workers and Occupational Hazards Multiple Resources. https://www.cdc.gov/niosh/healthcare/?CDC_AAref_Val=https://www.cdc.gov/niosh/topics/safepatient/default.html

Hierarchy of Controls. <https://www.cdc.gov/niosh/topics/hierarchy/>

NIOSH Hazard Review: Occupational Hazards in Home Healthcare DHHS (NIOSH) PUBLICATION NUMBER 2010-125 <https://www.cdc.gov/niosh/docs/2010-125/>

NIOSH Science Blog <https://blogs.cdc.gov/niosh-science-blog/>
Numerous topics including healthcare, back injuries, musculoskeletal disorders and more.

Prevention through Design. <https://www.cdc.gov/niosh/ptd/about/index.html>

Safe lifting and movement of nursing home residents (DHHS [NIOSH] Publication No. 2006-117). Collins, J. W., Nelson, A., & Sublet, V. (2006). Cincinnati, OH: National Institute for Occupational Safety and Health. <http://www.cdc.gov/niosh/docs/2006-117/>

Safe Patient Handling Nursing School Curriculum Module (2009). Waters TR, Nelson A, Hughes N, Menzel N. DHHS (NIOSH) Publication No. 2009-127. <http://www.cdc.gov/niosh/docs/2009-127/>

The Unique Occupational Environment of the Home Healthcare Worker (2020). Bien E., & Smith R. <https://blogs.cdc.gov/niosh-science-blog/2020/09/29/hhcws/>

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Healthcare Worker Wellbeing

Impact Wellbeing™ Guide 2024 <https://www.cdc.gov/niosh/docs/2024-109/default.html>

NIOSH training for nurses on shift work and long work hours (2015). By Caruso CC, Geiger-Brown J, Takahashi M, Trinkoff A, Nakata A. Cincinnati, OH: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-115 (Revised 4/2024). <https://doi.org/10.26616/NIOSHPUB2015115revised102023>

Safety Culture in Healthcare Settings (2023). Training course by Rogers B, Francis R, Dembski-Hart P, Hessels A, Hilton T, Casey M, Martin M. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2023-135, <https://www.cdc.gov/niosh/docs/2023-135/default.html>

Talking About Mental Health at Work.

<https://www.cdc.gov/niosh/healthcare/impactwellbeing/talking.html>

Total Worker Health® Program <https://www.cdc.gov/niosh/twh/programs/index.html>

Other

Professional associations and other government entities from the US, Canada and beyond with numerous downloadable resources.

Accident Compensation Corporation New Zealand. (2012). ACC6075 moving and handling people guidelines. <https://www.acc.co.nz/assets/provider/acc6075-moving-and-handling-people-guidelines.pdf>

American Industrial Hygiene Association (AIHA) (2014). Safe Patient Handling and Mobility Tip Sheet. AIHA/OSHA Alliance. https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/OSHA-Quick-Tips-on-SPHM_Final-Mar2014.pdf

Association of Occupational Health Professionals in Healthcare. (2020). Beyond Getting Started: A Resource Guide for Implementing a Safe Patient Handling Program in the Acute Care Setting (4th ed.). <https://www.aohp.org/aohp/Portals/0/Documents/ToolsForYourWork/BGSpublication/20-06%20BGS%20Safe%20Patient%20Handling.pdf>

Association of periOperative Registered Nurses (2021). Guideline for Safe Patient Handling and Movement. In *Guidelines for Perioperative Practice*. Denver, CO: AORN, Inc; 2021. (For purchase) <https://aornguidelines.org/guidelines/content?sectionid=192587418&view=book>

Association of PeriOperative Registered Nurses (2015). Pocket reference guide: Safe patient handling and movement in the perioperative setting. https://www.aorn.org/docs/default-source/aorndocuments/toolkits/safe-patient-handling/safe-patient-handling-pocket-reference-guide.pdf?sfvrsn=36a9944f_0

Association of PeriOperative Registered Nurses (2024). AORN Guideline for Safe Patient Handling: Evidence Table 2024. https://www.aorn.org/docs/default-source/guidelines-resources/evidence-rating-and-tables/evidence-table-safe-patient-handling-and-movement-020824.pdf?sfvrsn=2aa44a90_1

Association of Rehabilitation Nurses, ARN (2008). Safe Patient Handling Toolkit for the Interdisciplinary Team. <https://rehabnurse.org/advance-your-practice/practice-tools/sph-toolkit>

Canadian Centre for Occupational Health and Safety Safe Patient Handling Program https://www.ccohs.ca/oshanswers/hsprograms/patient_handling.html

European Agency for Safety and Health at Work (2025). Musculoskeletal health and risk factors in the HeSCare sector – a review of existing information.

<https://osha.europa.eu/en/publications/musculoskeletal-health-and-risk-factors-hescare-sector-review-existing-information>

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Health and Safety Executive UK. Moving and handling in health and social care
<https://www.hse.gov.uk/healthservices/moving-handling/index.htm>

Massachusetts Nurses Association (2021). Safe Patient Handling and Mobility Toolkit.
<https://www.massnurses.org/files/file/SPH-Toolkit.pdf>

Matz M, Celona J, Martin M, McCoskey K, Nelson GG. (2019). **Patient Handling and Mobility Assessments (PHAMA)** (2nd ed.) Facility Guidelines Institute. https://www.fgiguideelines.org/wp-content/uploads/2019/10/FGI-Patient-Handling-and-Mobility-Assessments_191008.pdf

National Public Radio. June 24, 2015 OSHA launches program to protect nursing employees [All Things Considered audio]. Zwerdling D. 6 - brief audio sections including Even 'Proper' Technique Exposes Nurses' Spines to Dangerous Forces with Dr W Marras. NPR.org. Published February 11, 2015.
<http://www.npr.org/series/385540559/injured-nurses>

Nova Scotia Health Injury Prevention. Safe patient handling and mobility - various SPHM technology training resources.
<https://library.nshealth.ca/InjuryPrevention#:~:text=The%20Nova%20Scotia%20Health%20Safe,the%20handling%20or%20mobility%20activity>

SafeCare BC. The Provincial Safe Resident Handling Standards for Musculoskeletal Injury Prevention in British Columbia 2011. <https://safecarebc.ca/resources/assorted/provincial-safe-resident-handling-standards-for-musculoskeletal-injury-prevention-in-bc/>

WA State Dept. of Labor and Industries. Safe Patient Handling <https://lni.wa.gov/safety-health/safety-research/completed-projects/safe-patient-handling>

Western New York Council on Occupational Safety and Health (WNYCOSH) (2016). Safe Patient Handling Workgroup Report to the Commissioner of Health. New York State Dept. of Health. *This large toolkit contains a variety of tools including SPHM policy and training materials from hospitals and long-term care facilities in New York State.*
https://www.health.ny.gov/statistics/safe_patient_handling/docs/sph_report.pdf

WorkSafeBC Patient handling – numerous resources related to use of SPHM technology
<https://www.worksafebc.com/en/health-safety/industries/health-care-social-services/topics/patient-handling>

WorkSafe Victoria– Australia Healthcare and social assistance – working – numerous SPHM resources.
<https://www.worksafe.vic.gov.au/healthcare>

WorkSafe Victoria– Australia Transferring people safely: A handbook for workplaces 2009. How to minimize the risk of health, aged care, rehabilitation and disability services workers being injured when moving people.<https://www.worksafe.vic.gov.au/resources/transferring-people-safely-handbook-workplaces>

Yorkshire Back Exchange UK. Moving and Handling of People Hoisting Guidance 2023.[https://www.nationalbackexchange.org/sites/default/files/content-files/Useful%20Links/Yorkshire%20Back%20Exchange%20\(YBE\)%20HOIST%20GUIDANCE%202023.pdf](https://www.nationalbackexchange.org/sites/default/files/content-files/Useful%20Links/Yorkshire%20Back%20Exchange%20(YBE)%20HOIST%20GUIDANCE%202023.pdf)

US Dept of Veterans Affairs Safe Patient Handling and Mobility (SPHM)
<http://www.publichealth.va.gov/employeehealth/patient-handling/index.asp>

Numerous SPHM Guidelines including:

- Safe Patient Handling and Mobility (SPHM) Solutions Everywhere for Everyone.
<https://www.publichealth.va.gov/docs/employeehealth/SPHM-Solutions-Everywhere-for-Everyone.pdf>
- Patient Safety Simulations in a VA Virtual Environment.
<https://www.publichealth.va.gov/docs/employeehealth/PSP-Getting-Started-Guide.pdf>

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- [Patient Safety Simulations in a VA Virtual Environment](#) (324 KB, PDF)
- [Patient Handling \(Lifting\) Equipment Coverage & Space Recommendations](#) (1.01 MB, PDF)
Guidelines for equipment used for patient-handling that addresses coverage and installation issues surrounding ceiling-mounted lifts, and coverage and storage issues surrounding ceiling-mounted lifts, and coverage and storage issues for portable/floor-based lifts
- [VHA Directive 1611 - Safe Patient Handling and Mobility Program](#) (41 KB, PDF)
Provides background and policy for implementing the Safe Patient Handling Program at Veterans Health Administration facilities
- [VHA Installation and Relocation Checklist for Ceiling Mounted Patient Lifts](#) (152 KB, PDF)
Required checklist for every installation or relocation of a ceiling mounted patient lift in VHA facilities, from National Center for Patient Safety (NCPS) Patient Safety Alert AL14-07
- [VHA Corrective and Preventive Maintenance Checklist for Ceiling Mounted Patient Lifts](#) (124 KB, PDF)
Required checklist for every preventive maintenance or significant corrective maintenance of a ceiling mounted patient lift in VHA facilities, from NCPS Patient Safety Alert AL14-07

Office of Construction & Facilities Management <https://www.cfm.va.gov/til/>.

The Technical Information Library (TIL) contains technical publications related to the planning, design, leasing, and construction of VA facilities. The TIL Catalog is an alphabetical listing of publications with descriptions and contact information.

- VA Barrier Free Design Standard, A Supplement to the Architectural Barriers Act. Accessibility Standards (ABAAS) January 1, 2017 rev 5/01/25 PG-18-13 Office of Construction & Facilities Management Facilities Standards Service. <https://vatilms.va.gov/vatilms/reports/PG-18-13>
- Safe Patient Handling and Mobility Design Criteria AUGUST 1, 2021. <https://vatilms.va.gov/vatilms/reports/PG-18-13>

Safe Patient Handling and Mobility Guidebook VHA Center for Engineering & Occupational Safety and Health (CEOSH) St. Louis, Missouri. January 2016.

https://www.stryker.com/content/dam/stryker/education-and-training/focusrn/resources/caregiver-safety/implementation-tools/VA%20SPHM_PDF.pdf

Bariatric Safe Patient Handling and Mobility Guidebook: A Resource Guide for Care of Persons of Size.

Center for Engineering & Occupational Safety and Health (CEOSH). Veterans Affairs. 2015 Rev. 2025.

<https://www.aspahp.org/wp-content/uploads/2011/05/Bariatric-SPHM-guidebook-care-of-Person-of-Size.pdf>

Associations

Association for Safe Patient Handling Professionals (ASPHP). <https://aspahp.org/>

The following professional associations have health care interest groups related to SPHM and health care safety, health & ergonomics. This list is not exhaustive.

- American Association of Occupational Health Nurses (AOHN) <https://www.aoohn.org/>
- American Industrial Hygiene Association (AIHA) <https://www.aiha.org/>
- American Nurses Association (ANA) <https://www.nursingworld.org/>
- American Occupational Therapy Association. www.aota.org
- American Physical Therapy Association [www.apta.org/](http://www.apta.org)
- American Society of Safety Professionals (ASSP) www.assp.org

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- Association of Occupational Health Professionals (AOHP) www.aohp.org
- Association of periOperative Registered Nurses (AORN) <https://www.aorn.org/>
- Human Factors & Ergonomics Society (HFES) www.hfes.org
- Institute of Industrial and Systems Engineers (IISE)/Applied Ergonomics www.iise.org
- International Ergonomics Association (IEA). <https://iea.cc/>
- National Association of Orthopedic Nurses (NAON) <https://www.orthonurse.org/>
- Oregon Coalition for Health Care Ergonomics (OCHE) www.hcergo.com

Certification

Certified Safe Patient Handling Professionals (CSPHP) <https://csphp.org/sphm-certification/>

Board of Certification in Professional Ergonomics (BCPE) <https://bcpe.org/>

Laws and Standards

Also refer to Engineering Controls – SPHM Technology

American Nurses Association. **Safe Patient Handling and Mobility Interprofessional Standards Across the Care Continuum 2nd edition.** American Nurses Association; 2021. Silver Springs, MD. The ANA's Safe Patient Handling and Mobility (SPHM) standards provide national guidelines to prevent injuries to both patients and healthcare workers, aiming to eliminate manual patient handling and create a safety-focused environment. Eight evidence-based standards needed to implement and maintain a successful SPHM program are described. <https://www.nursingworld.org/nurses-books/safe-patient-handling-and-mobility-2nd-edition2/>

The Facility Guidelines Institute (FGI) guidelines for design and construction of health care facilities in the US, i.e., the Guidelines for Design and Construction of Hospitals; for Residential Health, Care and Support Facilities; and for Outpatient Facilities. These Guidelines include elements such as risk assessment, space requirements, and design specifications that directly support safe patient handling (as provided in the PHAMA – **Refer to page 10-6**). 43 states have adopted these guidelines or an equivalency to regulate design of health care facilities, aiming to establish environments that are safe and effective for patients and healthcare professionals. <https://www.fgiguideelines.org/guidelines/editions/>

Federal OSHA – Occupational Safety and Health Regulations - **Refer to page 10-2.**

U.S. Dept of Justice Civil Rights Division. **Access to Medical Care for Individuals with Mobility Disabilities.** Last updated: June 26, 2020, and the **Americans With Disabilities (ADA) Access to Medical Care for Individuals with Mobility Disabilities**—Use of SPHM Technology in Clinics. 2010. <https://www.ada.gov/resources/medical-care-mobility/>

International Standards Organization www.iso.org

ISO Standards & Technical Reports related to SPHM technology, and occupational safety and health programs (selected)

ISO 10535:2021 Assistive products – Hoists for the transfer of persons – Requirements and test methods. International Organization for Standardization, Geneva, Switzerland. ISO 10535 details the design and testing requirements manufacturers of patient lifts and slings should meet before their products are made available for use in any health care or home/community environment. In the US, ISO 10535 is recognized as a consensus standard by the Food and Drug Administration (FDA) as applied to

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patient lifts and slings, thus, manufacturers of such devices should at a minimum, meet ISO 10535 design and testing criteria.

ISO 45001, Occupational Health and Safety Management Systems (OHSMS). This standard establishes needs in the following areas: Understanding context of the organization, leadership, and worker participation, planning for the OHS system, support, operation, performance evaluation, and improvement. It is a good benchmark to use in evaluating SPHM programs.

ISO 7101:2023 Health Care Organization Management - Management Systems for Quality in Health Care Organizations – Requirements. This is the first international standard for quality management in healthcare organizations, providing a framework for delivering effective, safe, and patient-centered care.

ISO TR 12296 (E) 2012 Ergonomics Manual Handling of People in the Health Care Sector provides guidance for assessing the problems and risks associated with manual patient handling in the health care sector, and for identifying and applying ergonomic strategies and solutions to those problems and risks.

SPHM & Ergonomics State Laws

- California Labor Code Sec. 6403.5 – California Labor Code Section 6403.5 (public.law) A-1136 signed into law October 2011 https://california.public.law/codes/ca_lab_code_section_6403.5
- Title 8, California Code of Regulations (CCRs), Section 5110 Repetitive Motion Injuries <https://www.dir.ca.gov/title8/5110.html>
- Hawaii House Concurrent Resolution No. 16 – HCR16. https://www.capitol.hawaii.gov/sessions/session2006/bills/HCR16_.htm
- Illinois 210 ILCS 45/Art – 210 ILCS 45/ Nursing Home Care Act. <https://www.ilga.gov/Legislation/publicacts/view/097-0866>
- Illinois Public Act 097-0122 <https://www.ilga.gov/documents/legislation/ilcs/documents/021000850K6.25.htm>
- Maryland SB 879 signed into law April 2007 <https://mgaleg.maryland.gov/2007rs/bills/sb/sb0879f.pdf>
- Minnesota HB 712.2 signed into law May 2007. <https://www.revisor.mn.gov/statutes/cite/182.6553>
- Minnesota Omnibus Bill: SF3035 (Article 1. Section 21.182.677; pages 10-15) *Ergonomics programs* applicable to licensed health care facilities effective on July 1, 2023. <https://www.revisor.mn.gov/statutes/cite/182.677#>
- Massachusetts -An Act relative to safe patient handling and mobility in certain health facilities. Introduce in 2024 legislative session. Currently in committee. <https://malegislature.gov/Bills/193/S1436> <https://malegislature.gov/Bills/193/H2247>
- New Jersey https://web.doh.nj.gov/apps2/documents/bc/hcab_nop_safe_patient_handling_0910.pdf
- New York Guidance <https://www.nysna.org/sites/default/files/attach/ajax/2015/08/NYSSafePatientHandlingLaw.pdf>
- Rhode Island H 7386 signed into law July 2007 - <https://webserver.rilegislature.gov/BillText06/HouseText06/H7386.htm>

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SPHM & Ergonomics State Laws

- Texas SB 1525. June 17, 2005 –
<https://capitol.texas.gov/tlodocs/79R/billtext/html/SB01525F.htm>
- Washington ESHB 1672 signed into law on March 2006 -
<https://lawfilesextract.leg.wa.gov/Biennium/2005-06/Pdf/Bill%20Reports/House/1672-S.HBR.pdf>
- Washington RCW 49.17.520 Rules related to preventing musculoskeletal injuries 2023.
<https://app.leg.wa.gov/RCW/default.aspx?cite=49.17.520>

Effectiveness of SPHM Laws

Choi, J. S., & Cramer, E. (2016). Reports from RNs on safe patient handling and mobility programs in acute care hospital units. *Journal of Nursing Administration*, 46, 566–573.

Francis, R., Fray, M., & Morley, S. (2019). Does federal, government, or state legislation mandating SPHM make a difference to compliance? International round table discussion. *International Journal of Safe Patient Handling & Mobility (SPHM)*, 9(4), 149–153.

Fray, M., & Davis, K. G. (2024). Effectiveness of safe patient handling equipment and techniques: A review of biomechanical studies. *Human factors*, 66(10), 2283-2322.

Kayser SA, Wiggemann NE, Kumpar D. (2020). Factors associated with safe patient handling practice in acute care and its relationship with patient mobilization: A cross-sectional study. *International Journal of Nursing Studies*. 104: 103508.

Lapane, K. L., Dubé, C. E., & Jesdale, B. M. (2016). Worker injuries in nursing homes: is safe patient handling legislation the solution? *The journal of nursing home research sciences*, 2, 110.

Lee, S. J., Lee, J. H., & Gershon, R. R. (2015). Musculoskeletal symptoms in nurses in the early implementation phase of California's safe patient handling legislation. *Research in Nursing & Health*, 38(3), 183–193.

Lee, S. J., Lee, J. H., and Robert Harrison. (2019). Impact of California's safe patient handling legislation on musculoskeletal injury prevention among nurses. *American Journal of Industrial Medicine*, 62, no. 1: 50-58.

Lee, S. J. (2020). Impact of Safe Patient Handling Legislation on Musculoskeletal Disorders Among California Healthcare Workers. *Labor Research and Evaluation (LRE) Grants* Grant No.: EO-30270-17-60-5-6.

Lee, S. J., Kang, K. J., & Lee, J. H. (2021). Safe patient handling legislation and changes in programs, practices, perceptions, and experience of musculoskeletal disorders by hospital characteristics: A repeated cross-sectional survey study. *International Journal of Nursing Studies*, 113, 103791.

Lee, S. J., Lee, J. H., & Harrison, R. (2022). Safe patient handling legislation and musculoskeletal disorders among California healthcare workers: Analysis of workers' compensation data, 2007–2016. *American journal of industrial medicine*, 65(7), 589-603.

Lee, S. J., Stock, L., Michalchuk, V., Adesoye, K., & Mullen, K. (2021). Impact of California Safe Patient Handling Legislation: Health care workers' perspectives. *Workplace Health & Safety*, 69(3), 124–133.

Monaghan, H. M. (2013). Safe patient handling & movement: Legislation, accreditation, quality, and recognition. *American Journal of Safe Patient Handling & Movement*, 3(3), 103–109.

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New York State Assembly Subcommittee on Workplace Safety. (2011). Safe patient handling in New York: Short term costs yield long term results. Retrieved from <http://assembly.state.ny.us/comm/WorkPlaceSafe/20110527a/index.pdf>

Powell-Cope, G., & Rugs, D. (2015). What elements of the 2013 American Nurses Association safe patient handling and mobility standards are reflected in state legislation? *American Journal of Safe Patient Handling & Movement*, 5(1), 13–18. Retrieved from <https://sphmjournal.com/>

Public Citizen (2015). Safe Patient Handling Report Series Uplifting an Industry? State-Based Safe Patient Handling Laws Have Yielded Improvements But Are Not Adequately Protecting Health Care Workers <https://www.citizen.org/article/safe-patient-handling-report-series/>

Rockefeller, K., & Weaver, J. (2016). Physical therapists and safe patient handling and mobility in states with and without legislation. *American Journal of Safe Patient Handling & Movement*, 6(3), 98–103.

Rosebush, C. E., Schofield, K. E., Ramirez, M., Zaidman, B., Erickson, D. J., Tschida, B., and McGovern, P. M. (2022). Differential effectiveness of the Minnesota Safe Patient Handling Act by health care setting: An exploratory study. *American Journal of Industrial Medicine*, 65(2), 105-116.

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Silverstein, B., and Schurke, J. (2011). Washington State Department of Labor and Industries' SHARP Program: Implementation of Safe Patient Handling in Washington State Hospitals. Olympia, WA: Safely and Health Assessment and Research for Prevention. <https://lni.wa.gov/safety-health/safety-research/files/2011/SafePatientHandlingRpt2010.pdf>

Weinmeyer, R. (2016). Safe patient handling laws and programs for health care workers. *AMA journal of ethics*, 18(4), 416-421. <https://journalofethics.ama-assn.org/article/safe-patient-handling-laws-and-programs-health-care-workers/2016-04>

Ergonomics – Resources, Analysis Tools and Courses

Web Based Resources

Cal/OSHA Consultation Services Branch <https://www.dir.ca.gov/dosh/consultation.html>

Easy Ergonomics 1999 https://www.dir.ca.gov/dosh/dosh_publications/easerg2.pdf

Easy Ergonomics for desk top Users 2022
https://www.dir.ca.gov/dosh/dosh_publications/computerergo.pdf

Ergonomic Guidelines for Manual Material Handling 2007
https://www.dir.ca.gov/dosh/dosh_publications/mmh.pdf

Canadian Center for Occupational Health and Safety CCOHS. Ergonomic - numerous resources
<https://www.ccohs.ca/topics/hazards/ergonomic>

Chartered Institute of Ergonomics and Human Factors, UK. Numerous resources related to human factors in health care and musculoskeletal disorders in all industries. <https://ergonomics.org.uk/> The Ergonomics and human factors at work. (2013). www.hse.gov.uk/pubs/indg90.htm.

Encyclopedia of Occupational Health & Safety 4th ed 1998 29. Ergonomics. Chapter Editors: Wolfgang Laurig and Joachim Vedder. <https://www.iloencyclopaedia.org/contents/part-iv-66769/ergonomics-52353>

Guidance to help design effective and usable work procedures for health and social care teams.
www.ergonomics.org.UK

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Health and Safety Executive UK. Ergonomics and human factors at work A brief guide. 2013. <https://www.hse.gov.uk/pubns/indg90.pdf>

Health and Safety Executive UK. Human factors and ergonomics resources. <https://www.hse.gov.uk/humanfactors/>

International Ergonomics Association (IEA) What is Ergonomics and other resources - <https://iea.cc/about/what-is-ergonomics/>

International Labor Organization

Principles and guidelines for human factors /ergonomics (HFE) design and management of work systems (2021). Jointly prepared by the International Labour Office (ILO) and the International Ergonomics Association (IEA). <https://www.ilo.org/publications/principles-and-guidelines-human-factors-ergonomics-hfe-design-and-0>

Ergonomic checkpoints: Practical and easy-to-implement solutions for improving safety, health and working conditions(2010). <https://www.ilo.org/resource/training-material/ergonomic-checkpoints-practical-and-easy-implement-solutions-improving>

Work organization and ergonomics (1998). <https://www.ilo.org/publications/work-organization-and-ergonomics>

Institute for Work & Health (IWH) Numerous resources and research publications related to worker safety and health programs. <https://www.iwh.on.ca/systematic-review-program>

NIOSH - Ergonomics and Musculoskeletal Disorders – various resources <https://www.cdc.gov/niosh/ergonomics/index.html>

OSHA Ergonomics <https://www.osha.gov/SLTC/ergonomics/>

OSHA Computer Workstations eTool <https://www.osha.gov/etools/computer-workstations>

Public Services Health and Safety Association, Ontario, Canada. Numerous resources related to ergonomics, WMSDs and worker wellbeing. <https://www.pshsa.ca/>

The European Agency for Safety and Health at Work (EU-OSHA). Numerous publications related to ergonomics and musculoskeletal disorders <https://osha.europa.eu/en>

American Industrial Hygiene Association (AIHA), 2019. The Facts About Ergonomics: Dispelling Myths: Position Statement. <https://www.aiha.org/education/white-papers/the-facts-about-ergonomics-dispelling-myths>

UCLA Ergonomics Website <http://ergonomics.ucla.edu>

U.S. Department of Defense Design Criteria Standard Human Engineering. MIL-STD-1472H (15 September 2020). Although applicable to design and development of military systems, equipment, and facilities, this standard is a useful ergonomics design resource that can be applied or adapted to any occupational work environment. https://quicksearch.dla.mil/qsdocdetails.aspx?ident_number=36903

U.S. Department of Defense Defense Support Service Center (DSSC). Workplace Ergonomics Reference Guide 4th Edition A Publication of the Computer/Electronic Accommodations Program 2024 <https://cap.mil/file/get/documents/d91b865c-fb88-44e6-bf9e-1fca53c182e6.pdf>

WA State Dept. of Labor and Industries.

Sprains & Strains- numerous resources including analysis tools and training and the Ergonomics Ideas Bank <https://lni.wa.gov/safety-health/preventing-injuries-illnesses/sprains-strains/>

Office Ergonomics. These self-help courses can help you set-up a safe and comfortable computer workstation. <https://lni.wa.gov/safety-health/preventing-injuries-illnesses/sprains-strains/office-ergonomics>

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WorkSafe BC – Numerous resources.

- Sprains & strains <https://www.worksafebc.com/en/health-safety/injuries-diseases/sprains-strains>
- Ergonomics <https://www.worksafebc.com/en/health-safety/hazards-exposures/ergonomics>

Books & Articles (Selected)

Bhattacharya, A., & McGlothlin, J. D. (Eds.). (2012). *Occupational ergonomics: theory and applications* (2nd edition). CRC Press.

Bootsman, R., Markopoulos, P., Qi, Q., Wang, Q., & Timmermans, A. A. (2019). Wearable technology for posture monitoring at the workplace. *International Journal of Human-Computer Studies*, 132, 99-111.

Carayon, P. Ed. (2012). Handbook of human factors and ergonomics in health care and patient safety. 2nd Edition CRC press.

Carayon, P., Wetterneck, T. B., Rivera-Rodriguez, A. J., Hundt, A. S., Hoonakker, P., Holden, R., & Gurses, A. P. (2014). Human factors systems approach to healthcare quality and patient safety. *Applied Ergonomics*, 45(1), 14–25.

Carayon, P., Wooldridge, A., Hoonakker, P., Hundt, A. S., & Kelly, M. M. (2020). SEIPS 3.0: Human-centered design of the patient journey for patient safety. *Applied ergonomics*, 84, 103033. <https://pmc.ncbi.nlm.nih.gov/articles/PMC7152782/pdf/nihms-1569499.pdf>

Chaffin, D. B., Andersson, G. B. J., & Martin, B. J. (2006). *Occupational biomechanics* (4th ed.). New York: Wiley-Intersciences.

Chartered Institute of Ergonomics and Human Factors. (2020). Guidance to help design effective and usable work procedures for health and social care teams. <https://chfg.org/guidance-to-help-design-effective-and-usable-work-procedures-for-health-and-social-care-teams/>

Eastman Kodak. (2004). *Ergonomic Design for People at Work*. 2nd edition. John Wiley & Sons, Inc.

Holden, R. J., & Carayon, P. (2021). SEIPS 101 and seven simple SEIPS tools. *BMJ quality & safety*, 30(11), 901-910. <https://qualitysafety.bmj.com/content/30/11/901>

Karwowski, W., Szopa, A., & Soares, M. M. (Eds.). (2021). *Handbook of standards and guidelines in human factors and ergonomics*. Crc Press.

Lind, C. M., Diaz-Olivares, J. A., Lindecrantz, K., & Eklund, J. (2020). A wearable sensor system for physical ergonomics interventions using haptic feedback. *Sensors*, 20(21), 6010.

Marras WS. *The Working Back: A Systems View*. John Wiley & Sons. 2008.

Melles, M., Albayrak, A., & Goossens, R. (2021). Innovating health care: key characteristics of human-centered design. *International Journal for Quality in Health Care*, 33(Supplement_1), 37-44.

National Research Council (US) and Institute of Medicine (US) Panel on Musculoskeletal Disorders and the Workplace. *Musculoskeletal Disorders and the Workplace: Low Back and Upper Extremities*. Washington (DC): National Academies Press (US); 2001. 6, Biomechanics. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK222434/>

Norman D. (2013). *The Design of Every Day Things*. 3rd Edition. Currency Doubleday.

Oakman, J., & Macdonald, W. (2019). The APHIRM toolkit: An evidence-based system for workplace MSD risk management. *BMC Musculoskeletal Disorders*, 20, 504.

Rogers, B., Buckheit, K., & Ostendorf, J. (2013). Ergonomics and nursing in hospital environments. *Workplace Health & Safety*, 61, 429–439.

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Salvendy, G. & Karwowski W. (Ed.). (2021). *Handbook of Human Factors and Ergonomics* 5th edition John Wiley & Sons. ISBN:9781119636113

Stefana, E., Marciano, F., Rossi, D., Cocca, P., & Tomasoni, G. (2021). Wearable devices for ergonomics: A systematic literature review. *Sensors*, 21(3), 777. <https://pubmed.ncbi.nlm.nih.gov/33498904/>

Soares, M. M., & Rebelo, F. (2016). *Ergonomics in design: Methods and techniques*. CRC Press.

Sujan, M., Pickup, L., Vosper, H., & Catchpole, K. (2022). *Making human factors and ergonomics work in health and social care: chapter 1*. Chartered Institute of Ergonomics and Human Factors
<https://ergonomics.org.uk/asset/CECAEB97%2D627E%2D490E%2DBF7C154C0A2BDB38/>

Wilson, J. R. (2014). Fundamentals of systems ergonomics/human factors. *Applied ergonomics*, 45(1), 5-13.

Ergonomics Analysis Tools (Selected)

American Industrial Hygiene Association. AIHA. Apps and eTools Resource Center
<https://www.aiha.org/public-resources/healthierworkplaces/healthier-community-resources/apps-and-tools-resource-center>

Ergonomic Assessment Toolkit 2023. <https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/ErgonomicAssessmentToolkit.pdf>

Cornell University Ergonomics Web -various ergonomics guides and tools.
<https://ergo.human.cornell.edu/>

Gallagher, S Sesek R, Sesek B, Nail, I, Pool N, Budnick, P. (2022) Fatigue Failure Ergonomics Assessment Tools Advance MSD Prevention Strategies. Ergoweb, February 2, 2022. <https://ergoweb.com/fatigue-failure-ergonomics-assessment-tools-advance-msd-prevention-strategies/>

Hignett, S., & McAtamney, L. (2000). Rapid entire body assessment (REBA). *Applied Ergonomics*, 31, 201-205.

ISO Manual handling of people in the healthcare sector: Technical report ISO/TR 12296: Annex A, provides examples of other tools that can be used for risk assessment of manual patient handling tasks. <https://www.iso.org/standard/51310.html> (requires purchase)

Kee, D., Na, S., & Chung, M. K. (2020). Comparison of the Ovako working posture analysis system, rapid upper limb assessment, and rapid entire body assessment based on the maximum holding times. *International Journal of Industrial Ergonomics*, 77, 102943.

Liberty Mutual

Manual Materials Handling website provides tools to calculate risk associated with *materials handling* tasks involving lifting, lowering, pushing, pulling, and carrying.
<https://libertymmhtables.libertymutual.com/>

Manual Materials handling guidelines.2014 <https://safetyresourcesblog.com/wp-content/uploads/2014/08/liberty-mutual-snook-tables.pdf>

Potvin JR, Ciriello VM, Snook SH, Maynard WS, Brogmus GE. The Liberty Mutual manual materials handling (LM-MMH) equations. *Ergonomics*. 2021 Aug;64(8):955-970.
<https://pubmed.ncbi.nlm.nih.gov/33729096/>

National Center for Health Statistics.(2021). Anthropometric reference data for children and adults: United States, 2015–2018. Fryar CD, Carroll MD, Gu Q, Afful J, Ogden CL. *Vital Health Stat* 3(46). 2021. Accessed July 30, 2022. https://www.cdc.gov/nchs/data/series/sr_03/sr03-046-508.pdf

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The Revised NIOSH Lifting Equation can be used to assess risk of low back disorders associated with *manual lifting tasks* that involve lifting and lowering. *NIOSH [1994]. Applications manual for the revised NIOSH lifting equation* <https://www.cdc.gov/niosh/docs/94-110/>

The Revised NIOSH Lifting Equation (RNLE) Applications Manual guides users on how to use the RNLE. <https://www.cdc.gov/niosh/topics/ergonomics/nlecalc.htm>

Waters, T. R., Putz-Anderson, V., & Garg, A. (1994). Applications manual for the revised NIOSH lifting equation. <https://www.cdc.gov/niosh/docs/94-110/default.html>

The RNLE is also available on an app (from Apple IOS store or Google play store) together with the composite lifting index (CLI) that can be used to calculate risk for multiple lifting tasks <https://www.cdc.gov/niosh/ergonomics/about/RNLE.html>

Garg, A., Boda, S., Hegmann, K. T., Moore, J. S., Kapellusch, J. M., Bhoyar, P., ... & Malloy, E. J. (2014). The NIOSH lifting equation and low-back pain, part 1: Association with low-back pain in the BackWorks prospective cohort study. *Human Factors*, 56(1), 6-28.

Garg, A., & Kapellusch, J. M. (2016). The Cumulative Lifting Index (CULI) for the Revised NIOSH Lifting Equation: Quantifying risk for workers with job rotation. *Human Factors*, 58(4), 683-694.

Garg, A., Kapellusch, J. M., Hegmann, K. T., Moore, J. S., Boda, S., Bhoyar, P., & Malloy, E. J. (2014). The NIOSH lifting equation and low back pain, part 2. *Human Factors*, 56(1), 44-57.

Lu, M.-L., Putz-Anderson, V., Garg, A., & Davis, K. G. (2016). Evaluation of the impact of the revised National Institute for Occupational Safety and Health lifting equation. *Human Factors*, 58(4), 667-682.

Lu, M.-L., Waters, T. R., Krieg, E., & Werren, D. (2014). Efficacy of the revised NIOSH lifting equation to predict risk of low back pain associated with manual lifting. *Human Factors*, 56(1), 73-85.

Waters, T. R., Putz-Anderson, V., Garg, A., & Fine, L. J. (1993). Revised NIOSH equation for the design and evaluation of manual lifting tasks. *Ergonomics*, 36(7), 749-776.

Waters, T. R., Lu, M.-L., Piacitelli, L. A., Werren, D., & Deddens, J. A. (2011). Efficacy of the Revised NIOSH Lifting Equation to predict risk of low back pain due to manual lifting: Expanded cross-sectional analysis. *Journal of Occupational and Environmental Medicine*, 53(10), 1061-1067.

Waters, T., Occhipinti, E., Colombini, D., Alvarez-Casado, E., & Fox, R. (2016). Variable Lifting Index (VLI): A new method for evaluating variable lifting tasks. *Human Factors*, 58(4), 695-711.

Snook, S. H., & Ciriello, V. M. (1991). The design of manual handling tasks: revised tables of maximum acceptable weights and forces. *Ergonomics*, 34(9), 1197-1213.

TU Delft DINED anthropometric database. DINED is a project of the Applied Ergonomics and Design Section of the Human-Centered Design Department of the TU Delft faculty of Industrial Design Engineering. <https://dined.io.tudelft.nl/en/about>

University of Michigan Anthropometric Data Sources.
<http://mreed.umtri.umich.edu/mreed/downloads.html>

Washington State's Department of Labor & Industries (L&I) Numerous Assessment tools
<https://lni.wa.gov/safety-health/preventing-injuries-illnesses/sprains-strains/evaluation-tools>

The Physical Job Evaluation Checklist User Guide Health Care and Social Assistance. July 2017 SHARP Publication No. 40-21-2017 <https://lni.wa.gov/safety-health/safety-research/files/2017/PhysJobEvalChecklistHealthcare.pdf>

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Courses

Summary of Ergonomics/Human Factors Graduate Programs, Certificates, and Online Courses Available Around the World. <https://www.ergofoundation.org/resources/ergonomics-online-courses-around-the-world>

University of Michigan. Center for Occupational Health and Safety Engineering. Offer in person and virtual training in ergonomics and human factors engineering. <https://cohse.umich.edu/>

Oregon OSHA Everyday Ergonomics online course
<https://osha.oregon.gov/edu/courses/pages/ergonomics-for-everyone-online-course.aspx>

Resources by SPHM Program Component

Defining the Need for an SPHM Program

Note: Also refer to the SPHM General Resources listed above when looking for additional information and tools related to SPMH program components.

Occupational Injury Data Sources

US Bureau of Labor Statistics

Occupational Injury and Illness data - Federal <http://www.bls.gov/iif/> and State <https://www.bls.gov/iif/state-data.htm>

News Release: Employer-Reported Workplace Injuries and Illnesses, 2023. 11/08/2024
<https://www.bls.gov/news.release/pdf/osh.pdf>

Bureau of Labor Statistics. (2025, March 10). Injuries, illnesses, and fatalities: How to compute your firm's incidence rate for safety management. <https://www.bls.gov/iif/overview/compute-nonfatal-incidence-rates.htm>

Fact Sheet: Occupational injuries and illnesses resulting in musculoskeletal disorders (MSDs). US Bureau of Labor Statistics. n.d. Last updated May 1, 2020. <https://www.bls.gov/iif/factsheets/msds.htm>

Hospital workers: an assessment of occupational injuries and illnesses. June 2017.
<https://www.bls.gov/opub/mlr/2017/article/hospital-workers-an-assessment-of-occupational-injuries-and-illnesses.htm>

Occupational injuries and illnesses among registered nurses. November 2018.
<https://www.bls.gov/opub/mlr/2018/article/occupational-injuries-and-illnesses-among-registered-nurses.htm>

Liberty Mutual

Workplace Safety Index - Healthcare and Social Assistance, 2021.
https://business.libertymutual.com/wp-content/uploads/2021/06/2021_WSI_1003_R2.pdf

Workplace Safety Index 2020: Healthcare and Social Assistance. N/D. Last reviewed May 2020.
https://business.libertymutual.com/wp-content/uploads/2021/04/WSI_1003.pdf.

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Workplace Safety Indexes 2023: Healthcare and Social Assistance (August 2023). Liberty Mutual.
<https://business.libertymutual.com/>

Liberty Mutual 2024 Workplace Safety Index
<https://business.libertymutual.com/insights/2024-workplace-safety-index/>

National Safety Council

Work Safety Trends <https://injuryfacts.nsc.org/work/work-overview/work-safety-introduction/>

National Safety Council 2023 Worker Injury Facts, NSC 2023.
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Incidence & Worker Compensation Costs of Patient Handling WMSDs - Acute Care & Nursing

Also refer to Business Case for SPHM and to Incidence of WMSDs in Therapists, and to Long Term Care, EMS and Home Health for incidence of WMSDs in those care settings.

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 - 880.5510 Non-AC-powered patient lift. <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-H/part-880/subpart-F/section-880.5510>
 - § 880.5500 AC-powered patient lift. <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-H/part-880/subpart-F/section-880.5500>
- **Manufacturer and User Facility Device Experience** or MAUDE data represents reports of adverse events involving medical devices.
<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfmaude/textsearch.cfm>
- **Medical Product Safety Network** adverse event reporting program designed to promote reporting of medical device issues by healthcare organizations. Searchable data base provided. MedSun: U.S. Food & Drug Administration (FDA).
<https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/Medsun/searchreport.cfm>
- **Recalls, Market Withdrawals, & Safety Alerts.** <http://www.fda.gov/Safety/Recalls/default.htm>
- **Medical Device Recalls database**
<https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfRES/res.cfm>
- **Learn if a Medical Device Has Been Cleared by FDA for Marketing – good explanation of Classes of devices and process to market.**<https://www.fda.gov/medicaldevices/resourcesforyou/consumers/ucm142523.htm>
- **TPLC - Total Product Life Cycle**
<https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfTPLC/tplc.cfm>

The Total Product Life Cycle (TPLC) database integrates premarket and postmarket data about medical devices. It includes information pulled from CDRH databases including Premarket Approvals (PMA), Premarket Notifications (510[k]), Adverse Events, and Recalls. You can search the TPLC database by device name or procode to receive a full report about a particular product line. **Search parameters:** lift, patient, Non-AC-Powered Patient Lift since 2015.
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- **General Hospital Devices and Supplies – Patient Lifts.** <https://www.fda.gov/medical-devices/general-hospital-devices-and-supplies/patient-lifts>
- **Patient Lifts Safety Guide (PDF).** <http://www.fda.gov/downloads/MedicalDevices/ProductsandMedicalProcedures/HomeHealthandConsumer/HomeUseDevices/UCM386178.pdf>
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https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/detail.cfm?standard_identification_no=31767
- **Human Factors and Medical Devices** - An overview <https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/human-factors-and-medical-devices>

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US Food and Drug Administration (FDA) -Regulations & Resources Related to SPHM Technology

- **Human Factors and Medical Devices . Information for Health Care Professional, Manufacturers and Consumers.** Human Factors: Information for Consumers, Patients, and Caregivers <https://www.fda.gov/medical-devices/human-factors-and-medical-devices/human-factors-information-consumers-patients-and-caregivers>
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Age-Friendly Health Systems – CMS Requirements Related to Mobility

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SPHM Education and Training

Refer to Section 6 *Tool 6a* for a list of freely available SPHM training resources.

Refer to SPHM General Resources for more training-related information

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- [A Fall at Home](#)
- [Bed to Wheelchair Transfer Using a Total Lift](#)
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