

ENVIRONMENT, SAFETY & HEALTH DIVISION

Chapter 54: [Ergonomics](#)

Ergonomic Evaluation Procedures

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URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/ergonomicsProcedEval.pdf>

1 Purpose

The purpose of these procedures is to prevent ergonomic injuries. They cover identifying, evaluating, and mitigating ergonomic risks. They apply to workers, supervisors, ergonomic specialists, ESH coordinators, and the ergonomics program manager; and the Occupational Health Center (OHC) and Building and Space Management.

2 Procedures

The following procedures cover conducting office and non-office ergonomic evaluations. But workers and supervisors should be actively screening activities and workplace conditions with potential ergonomic risks and are strongly encouraged to engage their ESH coordinator or contact the program manager and/or OHC for assistance, ranging from informal consultations to formal evaluations.

2.1 Ergonomic Evaluation

2.1.1 Office

Office ergonomic evaluations are formal, conducted by an OHC ergonomic specialist, and documented in an evaluation report.

Step	Person	Action
1.	Supervisor and worker	If not previously completed within 2 years, worker is to complete ESH Course 291, Ergonomics Training - Office Worker (ESH Course 291) Worker and supervisor discuss results of ESH Course 291 workstation self-assessment and implement identified workstation corrective actions When warranted or desired, requests ergonomic evaluation by contacting OHC at ergonomics-slac@slac.stanford.edu
2.	Supervisor	Adds ESH Course 291EV, Ergonomic Evaluation - Office Worker (ESH Course 291EV), to worker's SLAC Training Assignment (STA) for an office evaluation
3.	Ergonomic specialist and worker	Performs evaluation at worker's computer workstation
4.	Ergonomic specialist	Documents evaluation and recommendations in evaluation report Sends evaluation report to supervisor and worker

Step	Person	Action
5.	Supervisor	Implements recommendations noted in the evaluation report, including, for example, procuring equipment and arranging for installation Reviews work practice recommendations with worker
6.	Building and Space Management	When height-adjustable workstations are recommended, assists with selection and coordinates removal and installation
7.	Worker	Makes work practice modifications recommended in the evaluation report Informs supervisor if ergonomic concerns arise
8.	Supervisor	Monitors and supports recommended work practice modifications
9.	Supervisor/worker	Requests additional support/follow up from OHC if desired
10.	OHC and/or ESH coordinator	Provides follow-up support as necessary or as requested Tracks implementation of report recommendations
11.	OHC	Maintains evaluation reports and records

2.1.2 Non-office

For non-office evaluations, the emphasis is on workers and supervisors working together to identify and minimize hazards (for guidance see the [Ergonomics: Industrial Ergonomics Screening Checklist](#)) and contacting their ESH coordinator for assistance.

When appropriate, a formal evaluation by an ergonomics specialist may be performed, following this procedure.

Step	Person	Action
1.	Supervisor/ESH coordinator	Assesses activities (using the Ergonomics: Industrial Ergonomics Screening Checklist) and determines if an ergonomic specialist is needed Requests an ergonomic evaluation Contacts OHC at ergonomics-slac@slac.stanford.edu to schedule
2.	Ergonomic specialist	Coordinates with the ESH coordinator to perform the evaluation
3.	ESH coordinator	Coordinates the evaluation with the supervisor and affected staff
4.	Ergonomic specialist and worker	Performs evaluation at worker's location
5.	Ergonomic specialist	Documents evaluation and recommendations in evaluation report Sends evaluation report to supervisor and worker
6.	Supervisor	Implements recommendations noted in the evaluation report, including, for example, procuring equipment and arranging for installation Reviews work practice recommendations with worker
7.	Worker	Makes work practice modifications recommended in the evaluation report Informs supervisor if ergonomic concerns arise
8.	Supervisor	Monitors and supports recommended work practice modifications

Step	Person	Action
9.	Supervisor/worker	Requests additional support/follow up from OHC if desired
10.	OHC and/or ESH coordinator	Provides follow-up support as necessary or as requested Tracks implementation of report recommendations
11.	OHC	Maintains evaluation reports and records

2.2 Office Moves

In addition to minimizing ergonomic risks in their workspaces, office workers must take care to avoid injury when moving their offices, which tends to involve activities and efforts with which they are unaccustomed and unfamiliar.

Step	Person	Action
1.	Building and Space Management	Assists with communication of ergonomics and safe office move resources (provided by ESH) to workers who are moving and their supervisors
2.	Supervisor and worker	Reviews tools and guidance on the Ergonomics and Safe Office Moves web sites
3.	OHC	Reviews Safe Office Moves guidelines with work groups upon request before move
4.	Supervisor and worker	Conducts moves following Safe Office Moves guidelines
5.	OHC	Provides office ergonomic tutorials and informal evaluations after the move upon request

2.3 Lifting Activities

For workers who perform routine lifting, supervisors must evaluate associated risks, using such guidance as the *threshold limit values (TLVs)* in Table 1 below or similar. (See Figure 1 for a simplified version.)

Note Although use of the TLVs for lifting is recommended, use of other tools such as the [NIOSH lifting equation](#) is acceptable. If additional guidance is needed, contact ergonomics-slac@slac.stanford.edu.

If activities are determined to be near a threshold in the TLVs for lifting, the supervisor must document mitigations in a job safety analysis (JSA), activity and training authorization (ATA), and/or work procedure. If activities are determined to exceed the thresholds in the TLVs for lifting, and cannot be mitigated, the supervisor must engage the ESH coordinator, who will determine the need for a formal evaluation by an ergonomic specialist.

Workers performing such lifts are to observe these thresholds. Workers routinely performing lifting/manual handling tasks, and their supervisors, should complete ESH Course 410, Back Safety Training ([ESH Course 410](#)).

Table 1 Maximum Weights (in pounds) and Frequencies for Lifting

Horizontal/vertical Location	Close 0 to 12"	Intermediate 12 to 24"	Far 24 to 31"
Low-frequency lifting: less than 2 hours/day or more than 2 hours/day with less than 12 lifts/hour			
Shoulder to 12" above the shoulder	35	15	No known safe limit
Knuckle to chest	70	35	20
Shin to knuckle	40	30	15
Floor to shin	30	No known safe limit	No known safe limit
Moderate-frequency lifting: more than 2 hours/day and less than 30 lifts/hour			
Shoulder to 12" above the shoulder	30	10	No known safe limit
Knuckle to chest	60	30	15
Shin to knuckle	35	25	10
Floor to shin	20	No known safe limit	No known safe limit
High-frequency lifting: more than 2 hours/day and less than 360 lifts/hour			
Shoulder to 12" above the shoulder	24	No known safe limit	No known safe limit
Knuckle to chest	30	20	10
Shin to knuckle	20	15	5
Floor to shin	No known safe limit	No known safe limit	No known safe limit

Adapted from American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Lifting, in Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) ([ACGIH TLVs and BEIs](#))

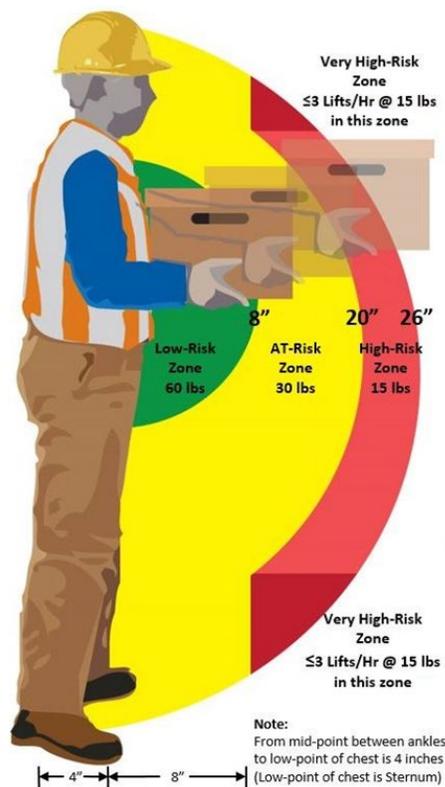


Figure 1 Maximum Weights (in pounds) and Frequencies for Lifting

3 Forms

The following forms and systems are required by this procedure:

- ergonomics-slac@slac.stanford.edu. E-mail for requesting ergonomic services

The following checklist is provided as guidance:

- [Ergonomics: Industrial Ergonomics Screening Checklist](#) (SLAC-I-730-0A21J-052). Checklist for identifying and minimizing industrial (non-office) ergonomic hazards

4 Recordkeeping

The following recordkeeping requirements apply for this procedure:

- OHC maintains evaluation reports and records

5 References

[SLAC Environment, Safety, and Health Manual](#) (SLAC-I-720-0A29Z-001)

- [Chapter 54, “Ergonomics”](#)

Other SLAC Documents

- SLAC Training Assignment ([STA](#))
- ESH Course 291, Ergonomics Training - Office Worker ([ESH Course 291](#))
- ESH Course 291EV, Ergonomic Evaluation - Office Worker ([ESH Course 291EV](#))
- ESH Course 410, Back Safety Training ([ESH Course 410](#))
- [Ergonomics](#) (including checklists for identifying risks and guides to using computers and furniture safely)
- [Safe Office Moves](#)

Other Documents

- California Department of Industrial Relations and the National Institute for Occupational Safety and Health (NIOSH). Ergonomic Guidelines for Manual Material Handling ([DHHS \(NIOSH\) Publication No. 2007-131](#))
- American Conference of Governmental Industrial Hygienists (ACGIH). Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) ([ACGIH TLVs and BEIs](#))
- Stanford University, Office of Environmental Health and Safety. [Ergonomics](#)