

Chapter 54: [Ergonomics](#)

Ergonomic Evaluation Procedures

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

1 Purpose

The purpose of these procedures is to increase worker effectiveness and prevent injuries.

They cover identifying, evaluating, and mitigating office and non-office ergonomic risks.

They apply to workers, supervisors, ergonomic specialists, ESH coordinators, the ergonomics program manager, Occupational Health, and Facilities Management and Planning.

2 Procedures

Workers and supervisors should actively screen activities and workplace conditions with potential ergonomic risks and are strongly encouraged to engage their ESH coordinator or contact the ergonomics program manager and/or the Occupational Health Center (OHC) for assistance, ranging from informal consultations to formal evaluations.

2.1 Office Ergonomic Evaluation

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

Step	Person	Action
1.	Worker	If not completed within last 2 years, completes ESH Course 291, Ergonomics Training - Office Worker (ESH Course 291) Discusses results of workstation self-assessment in ESH Course 291 with their supervisor Implements identified workstation/behavioral modifications
2.	Supervisor	If warranted, adds ESH Course 291EV to the worker's STA and instructs worker to submit an evaluation request <i>Note: computer workstation evaluations are optional but personnel who are experiencing pain or discomfort from their computer work should have course 291EV added to their STA and receive an evaluation.</i>
3.	Worker	Requests an ergonomic evaluation by completing an Ergonomics Request Form
4.	Ergonomic specialist	Reviews the request and schedules appropriate ergonomic service

Step	Person	Action
		<p><i>Note: not all requests require a full evaluation. In some cases, a short consultation or showroom visit will address the issue.</i></p> <p><i>As part of this process, there may be an appointment arranged at the ergonomics showroom.</i></p> <ul style="list-style-type: none"> ▪ If an evaluation is completed, sends the report with recommendations to the worker and supervisor and cc's OHC ▪ If a consultation or a showroom visit is completed, sends a detailed email to the worker and supervisor summarizing the session and providing next steps
5.	Supervisor and worker	Review and implement recommendations in the evaluation report or detailed email (e.g., procures equipment, arranges for installation, modifies behaviors)
6.	Facilities Management and Planning	For chairs and furniture identified in the Ergonomics Products Catalog , including height-adjustable workstations, coordinates ordering and installation
7.	Worker	Implements the recommended work practice modifications Informs the supervisor if ergonomic concerns arise
8.	Supervisor	Monitors implementation of recommended work practice modifications
9.	Supervisor/worker	Requests additional support/follow up from SLAC ergonomics as needed
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 any associated records

2.2 Non-office Ergonomic Evaluation

Non-office spaces are any workspaces that are not offices, for example, laboratories, machine shops, and beam hutches. 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
2.	Supervisor/ESH coordinator	Requests an ergonomic evaluation by completing an Ergonomics Request Form
3.	Ergonomic specialist	Coordinates with supervisor and the ESH coordinator to perform the evaluation
4.	Ergonomic specialist	Performs evaluation at worker's location Documents evaluation and recommendations in evaluation report Sends evaluation report to supervisor, worker, and ESH coordinator

Step	Person	Action
5.	Supervisor	Reviews any work practice recommendations with worker Implements recommendations noted in the evaluation report
6.	Worker	Modifies work practices as recommended in the evaluation report Informs supervisor if ergonomic concerns arise
7.	Supervisor	Monitors implementation of recommended work practice modifications
8.	Supervisor/worker	Requests additional support/follow up from OHC if desired
9.	OHC and/or ESH coordinator	Provides follow-up support as necessary or as requested Tracks implementation of report recommendations
10.	OHC	Maintains evaluation reports and records

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](#))

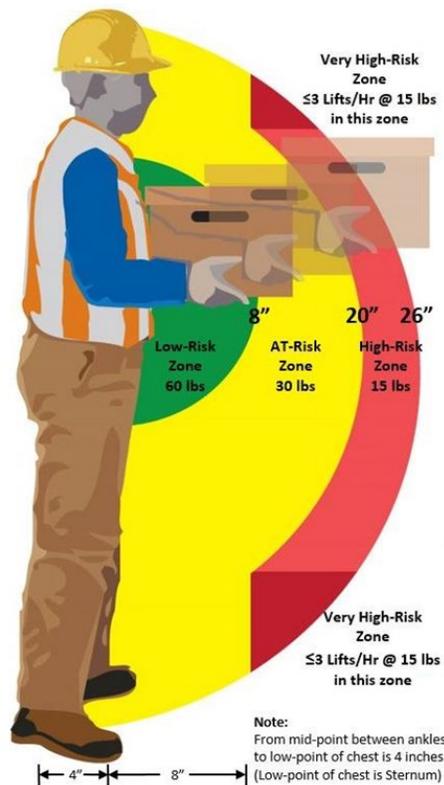


Figure 1 Maximum Weights (in pounds) and Frequencies for Lifting

3 Forms

The following forms and systems are required by this procedure:

- [Ergonomics Request Form](#) (SmartSheet). Form for requesting ergonomic evaluations and services
- ergonomics-slac@slac.stanford.edu. E-mail for questions or requesting support

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”](#)
 - [Ergonomics Program Site](#) (SharePoint)
 - [SLAC Ergonomics Products List Catalog](#)

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](#))

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, Department of Environmental Health and Safety. [Ergonomics](#)