

California Institute of Technology

ERGONOMICS PROGRAM



Caltech Environment, Health, and Safety Office
1200 E. California Blvd., M/C 25-6
Pasadena, CA 91125
Phone: 626.395.6727
Fax: 626.577.6028
Email: safety@caltech.edu
Website: www.safety.caltech.edu

ERGONOMICS PROGRAM

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PURPOSE

The purpose of this Program is to establish responsibilities and procedures in order to promote continuous improvement in workplace ergonomic protection and to reduce both the number and severity of workplace musculoskeletal disorders caused by experiencing ergonomic risk factors.

Ergonomic evaluations are performed:

- As a preventative measure to avoid injury;
- In response to an employee experiencing discomfort as a direct result of their workstation set-up; and
- As a requested by the Caltech Workers' Compensation Team.

SCOPE

This program applies to all Caltech employees and students.

STATE AND FEDERAL REGULATIONS

CALIFORNIA – Cal/OSHA

- [Title 8 – §5110. Repetitive Motion Injuries](#)

RESPONSIBILITIES

ENVIRONMENTAL HEALTH & SAFETY OFFICE

The Environmental Health and Safety Office (EH&S) is responsible for:

- Performing Ergonomic Evaluations
- Responding to ergonomic evaluation requests:
 - In the event a task is associated with a reported repetitive motion injury (RMI), the task shall be assessed to determine whether the ergonomic risk can be reduced.
- Creating and developing an Ergonomic Evaluation Report to include:
 - Any findings
 - Immediate solutions performed during the evaluation
 - Any recommended equipment to for the employee (to be ordered by the employee's supervisor/department)
- Delivering the report to the employee and the employee's supervisor
- Delivering training about this Program to employees upon request or as needed in response to reports of RMIs associated with an area or task.

SUPERVISORS

The Supervisors' responsibilities under the Ergonomics Program include:

- Responding to ergonomic evaluation requests or related complaints by employees
- Applying recommendations based on the ergonomic evaluation
- Acquiring equipment for the employee and workspace as recommended in the assessment report
 - Equipment acquisitions are the responsibility of the supervisor and should be made as described in the Ergonomic Evaluation report. If this is not possible, the Supervisor should work with EH&S to determine suitable alternatives.

EMPLOYEES

The employee's responsibilities under the Ergonomics Program include:

- Reading and understanding the Ergonomics Program Overview received during their onboarding; and
- Applying the appropriate components of the evaluation report to their own workstation.

REQUESTING AN ERGONOMIC EVALUATION

Requests for Ergonomic evaluations can be made by the:

- Employee directly – Employee should notify their supervisor once request is made
- Supervisor
- Workers' Compensation

When performing an ergonomic evaluation, consideration will be made to the Hierarchy of Controls in determining the most effective ways to manage ergonomic risk. Controls will be determined in the order of:

- Elimination
- Substitution
- Engineering
- Administrative/Training
- Personal Protective Equipment (where applicable)

A report follows and is sent to the employee and supervisor.

ERGONOMIC EVALUATION PROCESS

- An evaluator will meet the employee at his/her workplace;
- Employee will explain their job duties to the evaluator;
- The evaluator will perform an [evaluation](#) of the employee's workplace to determine if any immediate adjustments can be made;
 - The evaluator will discuss the recommended adjustments with the employee prior to making any changes.
- The evaluator will then observe the employee performing their normal job duties to look for additional opportunities to manage ergonomic risk.
 - The evaluator will make adjustments as appropriate.
- The evaluator will review their recommendations/adjustments with the employee and go over any recommended [stretches/exercises](#).
- The evaluator will train employee/student on proper posture and proper use of their office equipment (chair, footrest, etc.).
- ETM will send report to both the employee and their supervisor.

TRAINING

- The employee will receive information as a part of their on-boarding process.
- Additional ergonomics training is on-demand (by request) or as determined by reports of injuries associated with a particular task.

Training requests can be made via:

- Email: safety@caltech.edu
- Phone: Extension 6727

PROGRAM EVALUATION AND REVIEW

This program will be periodically reviewed. Updates to the program will be made based on the review.

APPENDIX A: Caltech Office Ergonomics Evaluation Report



OFFICE ERGONOMIC EVALUATION REPORT

DATE: _____

TO SUPERVISOR/MANAGER		FROM EVALUATOR _____ PHONE: _____ MAIL CODE: _____	
EMPLOYEE NAME:		PHONE:	
JOB TITLE:		LOCATION (Bldg/Rm):	
REASON FOR ERGONOMIC EVALUATION (Select One): <input type="checkbox"/> EMPLOYEE REQUEST <input type="checkbox"/> SUPERVISOR/MANAGER REQUEST <input type="checkbox"/> FOLLOW-UP <input type="checkbox"/> WORKERS' COMPENSATION			
PRIMARY TASKS DESCRIPTION OF POTENTIALLY REPETITIVE OR STRESSFUL TASK(S) (e.g. use of computer/calculator/telephone, filing, lifting, etc.)		DURATION OF REPETITIVE MOTION (Average number of hours per workday)	
MEDICAL CONDITION(S) TO ACCOMMODATE <input type="checkbox"/> NO <input type="checkbox"/> YES If yes, please specify body part affected and symptoms			
BODY PART(S) AFFECTED		SYMPTOMS (e.g. ache, fatigue, numbness, pain, sore, tingle, etc.)	

ERGONOMIC EQUIPMENT	Check if Recommended	ERGONOMIC EQUIPMENT	Check if Recommended	ERGONOMIC EQUIPMENT	Check if Recommended
Back support for chair	<input type="checkbox"/>	Lamp for Desk	<input type="checkbox"/>	Wrist Rest for Calculator	<input type="checkbox"/>
Chair: Ergonomic	<input type="checkbox"/>	Monitor Stand	<input type="checkbox"/>	Wrist Rest for Keyboard	<input type="checkbox"/>
Copy/Document Holder	<input type="checkbox"/>	Mouse: Ergonomic	<input type="checkbox"/>	Wrist Rest for Mouse	<input type="checkbox"/>
Floor Mat: Plastic	<input type="checkbox"/>	Pencil/Pen Foam Grips	<input type="checkbox"/>	Keyboard: Microsoft Natural Elite	<input type="checkbox"/>
Foot Rest	<input type="checkbox"/>	Staple Remover: Ergonomic	<input type="checkbox"/>	Monitor Glare Reducer	<input type="checkbox"/>
Hole Punch: Electronic	<input type="checkbox"/>	Telephone Headset	<input type="checkbox"/>	Trackball	<input type="checkbox"/>
Hole Punch: Padded	<input type="checkbox"/>	Touchpad, Multiple Vendors	<input type="checkbox"/>		
Keyboard/Mouse Tray	<input type="checkbox"/>	Rollermouse	<input type="checkbox"/>		

Other Describe in Detail:

COMMENTS:

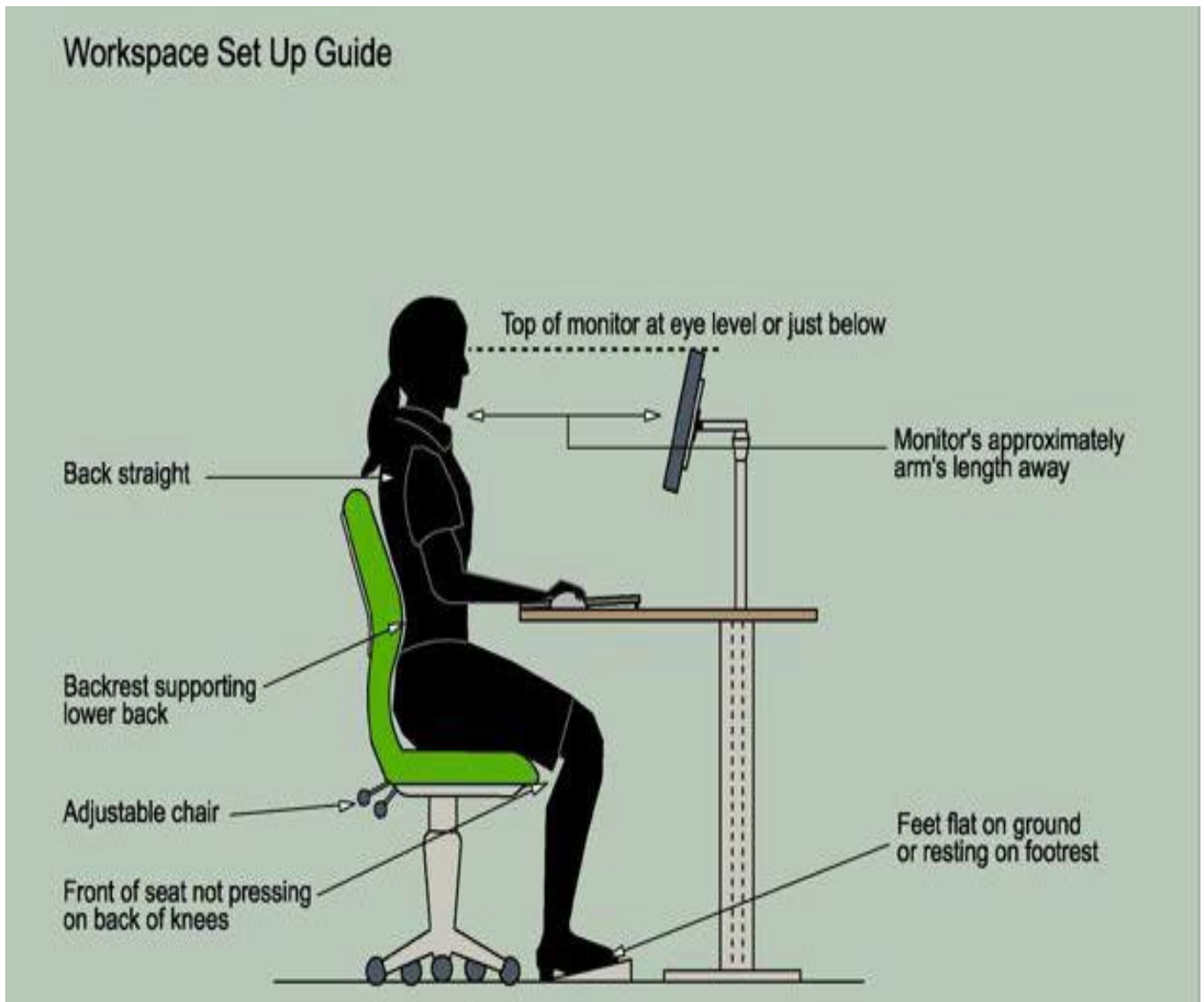
The following adjustments were completed at the time of evaluation:

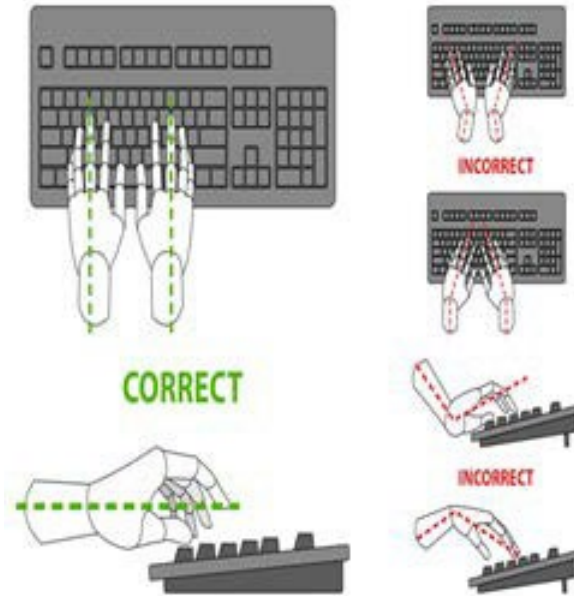
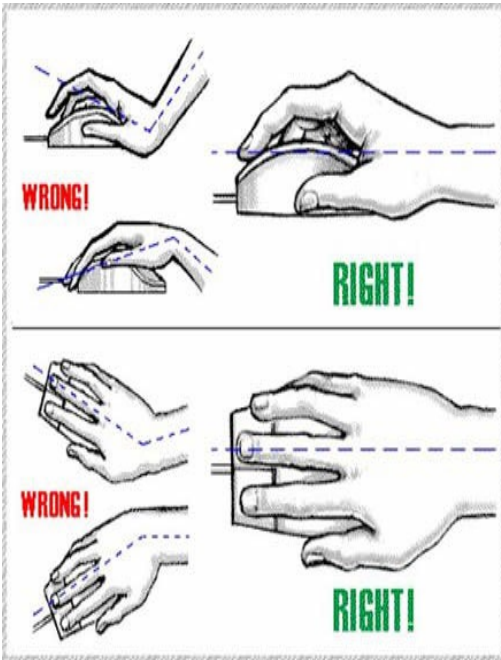
- 1.
- 2.
- 3.

APPENDIX B: OFFICE ERGONOMICS

The word ergonomics is used to describe the science of "designing the job to fit the worker, not forcing the worker to fit the job." Ergonomics covers all aspects of a job, from the **physical stresses** it places on joints, muscles, nerves, tendons, bones and the like, to **environmental factors** which can affect hearing, vision, and general comfort and health.

Following are illustrative examples of proper ergonomics while sitting and typing:





IMPORTANT ERGONOMIC LINKS

- Detailed information on ergonomics
 - (<https://www.safety.caltech.edu/services/ergonomic>)
- Web-based ergonomics training: Under development
 - (<https://www.safety.caltech.edu/training>)
- EHS training calendar
 - (<https://www.safety.caltech.edu/training/TrainingCalendar>)

APPENDIX C: Office Stretches



To reduce soreness and fatigue, take a stretch break every hour to two hours. Gentle stretching throughout the day helps improve circulation and relax the muscles that may help you complete your work faster and more accurately.

Stretch gently, to your level of comfort, never forcing the stretch. Hold the stretch 10 to 20 seconds and repeat 2 to 3 times. **Discontinue any stretch if it creates discomfort or pain.**

Rest the hands in your lap when not typing or using the mouse. Set your Outlook Calendar for hourly reminders to stretch, perform a couple of standing stretches, or walk.

<p>Reach for the Sky Sit with a straight back with both hands in lap. Lift one arm out to the side, reach up and over your head. Spread fingers. Lower arm and repeat on other side.</p> 	<p>Wingspread With hands clasped behind head, move elbows backward and hold for a few seconds. The hands should not push against the back of the head.</p> 	<p>Shoulder Rolls Relax the arms at your sides. Slowly roll the shoulders backwards 5 times.</p> 
<p>Backbend With hands on hips, feet shoulder width apart, slowly and gently lean backwards.</p> 	<p>Mid Back Stretch With both arms straight out in front, slightly "pull" one wrist forward and slightly arch the upper back and take a deep breath.</p> 	<p>Neck Stretch Tuck left hand behind your back. Lean your neck away from your left shoulder. Switch sides.</p> 
<p>Wrist Extensors With arm straight out in front of you and fingers pointing to the ground, apply mild pressure on the knuckles.</p> 	<p>Elbow & Finger Extension Start with elbows bent, arms parallel to the floor, and fingers clenched. Straighten arms out in front of you, while spreading fingers and extending wrists. Repeat 3 times.</p> 	<p>Finger Stretch With fingertips (but not palms) touching, lower your hands from chin level to chest level. Rotate fingers toward body.</p> 

Continued on the next page

<p>Hamstring Stretch Step forward on one foot. Raise the toe of the forward foot and bend forward at the waist. Return to starting position. Repeat with the other foot.</p> 	<p>Leg & Ankle Extension Straighten leg out in front of you. Flex and point foot. Repeat with other leg.</p> 	<p>Chin Tuck Sit up, exhale, and place finger on chin. Relax your neck and move head back so chin tucks in.</p> 
<p>Temple Massage Place fingers on the temples. Apply light pressure and massage in a circular motion.</p> 	<p>Hands Over Eyes Rub hands together to warm then cover eyes with palms. Hold for a count of 5, repeat.</p> 	<p>Standing Arm Rotation With arms out to your sides and palms facing down slowly rotate arms so palms face upwards. Arch your back slightly, and hold for a few seconds.</p> 