

# **Vermeulen, Liebenberg, Dippenaar en Louw Fisioterapeute**



# Muscle Relaxation Techniques

In the Office





Overtime

Sick

Tired

Dread Health

No Time

Headache

Stress

Bills Payments

No Sleep

Stress

Debt

Fear

Work

Worry

Job

Anxiety

Retirement

Savings

Anxiety

Overdue

Expectations

Insurance

Time Management

Fear

Late Nights

Late N

ear

Musculoskeletal disorders (MSDs) are disruptive, and can be painful and costly. They don't have to be. With good workplace ergonomics, MSDs can be prevented.



## MUSCULOSKELETAL DISORDER

**33%** of all 2011 injury and illness cases were **MSDs**.\*

**BACK INJURIES**  
accounted for over

**41%** of all **MSD** cases in 2011.\*

**11 DAYS**

was the average time away from work due to an MSD in 2011.\*

\* 2012 Bureau of Labor Statistics



# Relaxation?





# Relaxation at work?



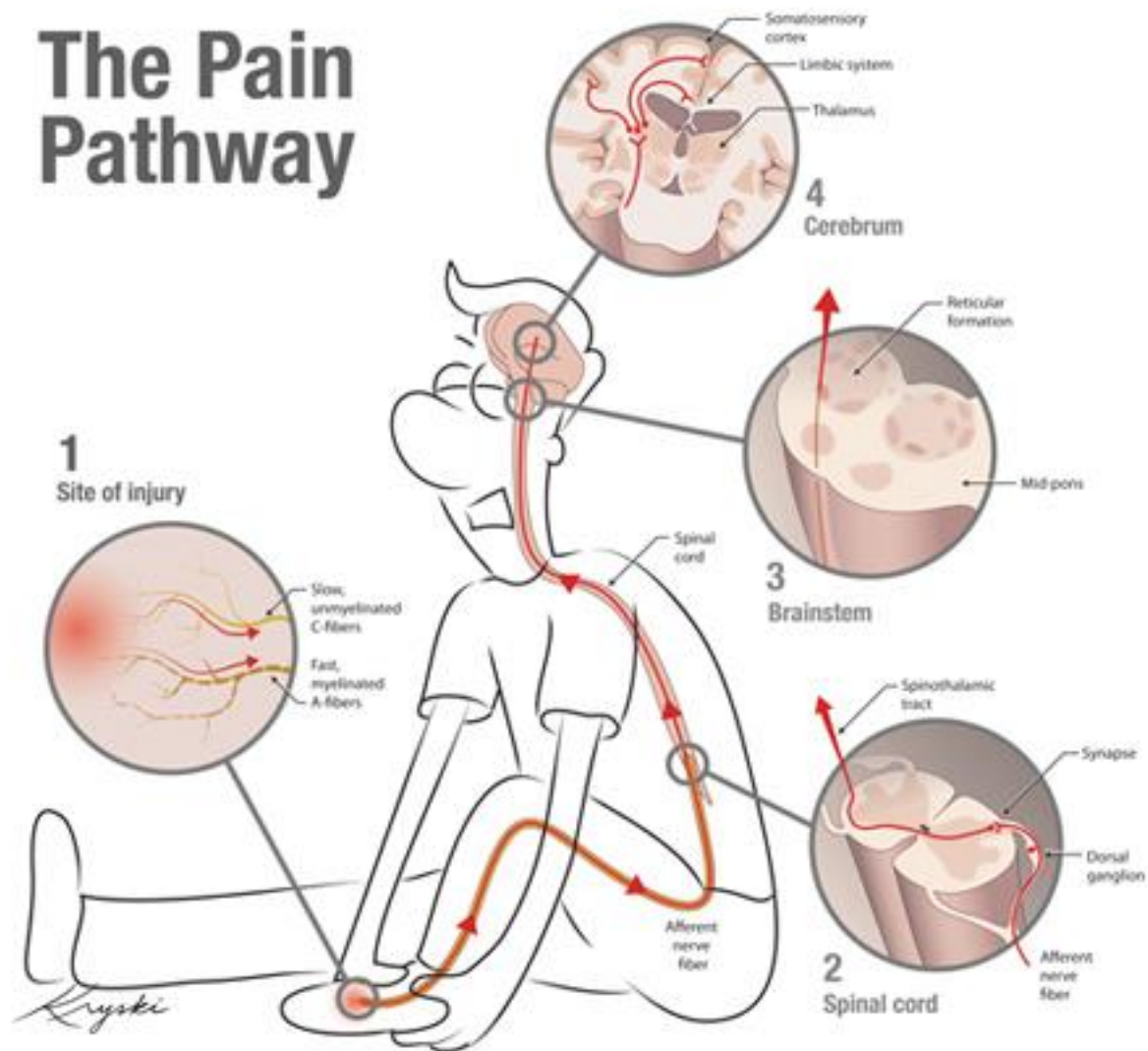
# Why doesn't my pain go away?

- Acute pain = Short term pain (Sprained ankle)
- Persistent/ Chronic pain = Long term pain (Back pain)
- Recurrent pain = pain that comes and go (Headache)
- Pain is an **alarm** signalling that something is wrong
- Pain comes from any part of your body : Skin, ligaments, joints, bones (nociceptive pain), injured tissue (inflammatory pain), nerves (neuropathic pain, internal organs (visceral pain) or combination of pain.

# Pain Pathways

- Pain usually travels from the painful part of the body along thousands of specialized nerve fibres, through the spinal cord, to the brain.

# The Pain Pathway



# Pain pathway

- Pain is then processed in the spinal cord and then in the brain.
- Creating a personal experience of pain for each person.
- The brain sends a signal back to the brain stem (increasing or reducing the pain further)
- Pain is never “just in the mind” or “just in the body”
- It is a complicated mixture of signals from the body and how the brain interprets it.

# Treatment for pain

- GP – pain medication
  - Side-effects
    - Addiction (more to get the same effect)
    - Pain killers cause Headaches



# Treatment of pain

- Physiotherapy
  - Exercise
  - Manual Therapy (manipulation and massage)
  - Electrotherapy
  - Advice on posture
  - Dry needling (Acupuncture)
  - Kinesio tape





# Treatment of pain

- Psychologist
  - Helpful ways to manage pain
  - Find a way forward
  - Identify stress which are adding to your pain



# Treatment of pain

- Occupational therapy
  - Manage day-to-day activities despite pain
  - Helpful devices (stair rails, bathing aids and other alterations to your home or work)



# Ergonomics

- Ergonomics is the study of the kind of work you do, the environment you work in, and the tools you use to do your job.
- The goal of office ergonomics is to set up your office work space so that it **fits you** and the **job** you are doing.

When your workstation is set up right, you may:

- Be less likely to have problems such as headaches or eyestrain.
- Reduce neck and back pain.
- Doing a task over and over (repetitive) could lead to bursitis and other tendon problems.



# Injuries at work due to poor posture?

Most injuries at work are caused by **physical stress and strain**, such as sitting in the same position for a long time, making repetitive movements, and overuse. These injuries can cause stress and strain on your muscles, nerves, tendons, joints, blood vessels, and spine.

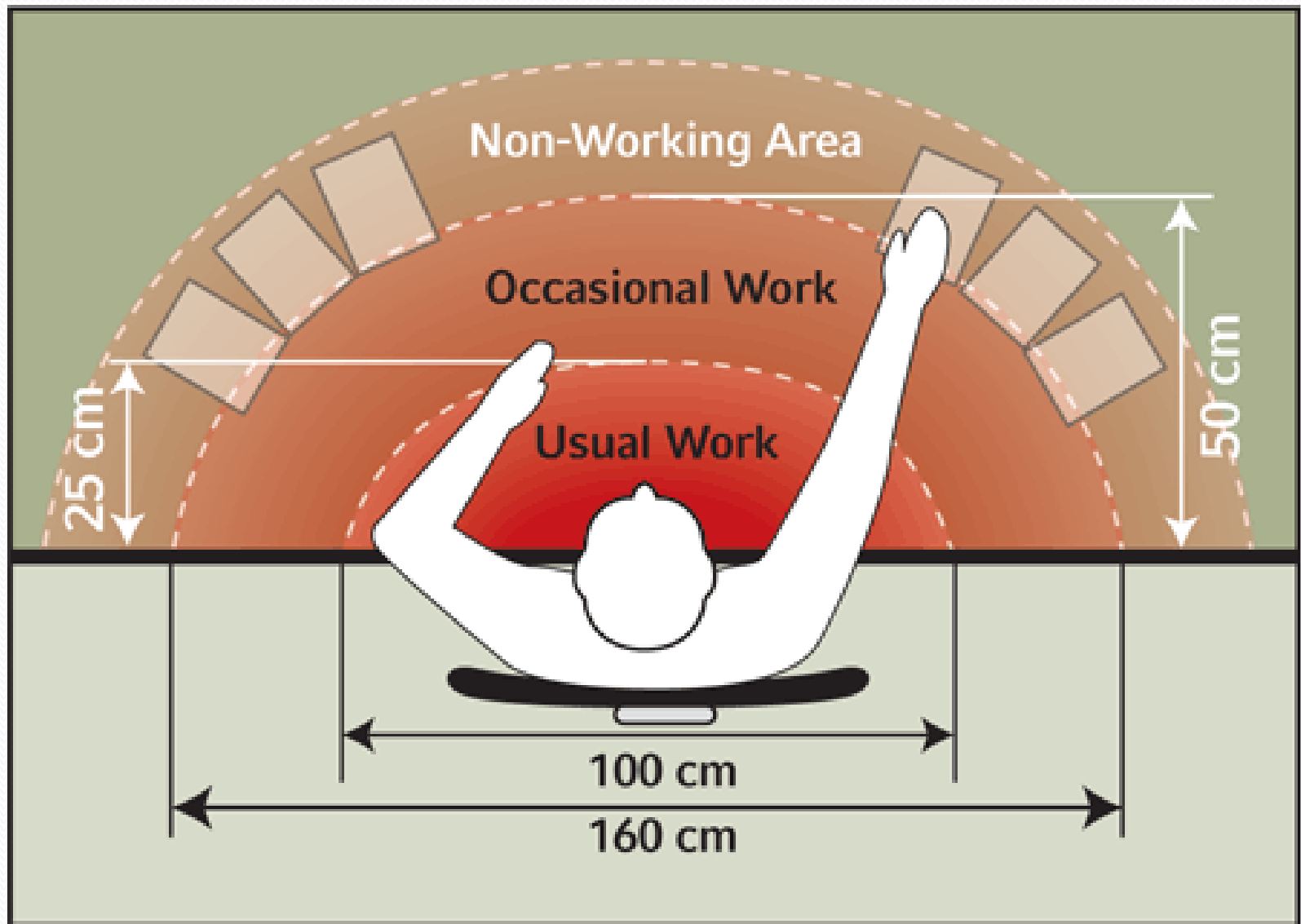
Symptoms can include pain in your:

- Back.
- Hand, wrist, or arms.
- Neck and shoulders.
- Tendinopathy and bursitis (higher risk), caused by overuse and repetitive movements.
- Over time leading to long-term health problems. And they use up your sick time.
- Increased risk if you suffer from other health problems like arthritis or emotional stress.

# How to prevent injuries?

Here are a few ways you can prevent injuries at work:

- Try to place your work in front of you and sit tall while you work.
- Try not to put too much stress on one area of your body, such as your lower back or arms.
- Change your position often.
- Turn with your whole body instead of twisting to face your work.
- Take breaks to stretch or get out of your chair every 20 to 40 minutes. If you can, switch to another task. E.g. walk to your colleague instead of sending an e-mail.



# Office ergonomics start with

# A.R.M.S.

## A is for adjustment and alignment

A simple chair adjustment makes a huge difference, says Karen Bitzer, occupational therapist and rehab manager at University Hospitals Case Medical Center.

Adjust the height of your chair, back rest and armrests, so that your elbows, hips and knees are bent at a 90 degree angle, and your forearms and thighs are parallel to the ground.

Ensure that your feet are parallel to the floor and your wrists are level with your desk.

If you work in front of a computer, adjust your monitor to about eye-level, so that you're glancing slightly down.

## R is for relaxation

Taking a break is beneficial to both your mind and body, Bitzer says. When your muscles are constantly contracting, toxins begin to build up. Relaxing improves circulation, removing those toxins and providing oxygen to your tissues



**Tip:** Visit a co-worker at his or her desk to deliver a message instead of sending an email.

## M is for motion

"The next posture is the best posture," says Gary Allread, program director for the Ohio State Institute for Ergonomics. "There's no one bad posture as long as you don't use that posture all day long." So mix up the muscles you're using throughout the day.

## S is for standing and safety

Stand at every opportunity, suggests Tom Adams, an ergonomist at the Cleveland Clinic. Stand up during meetings, or while you're talking on the phone.

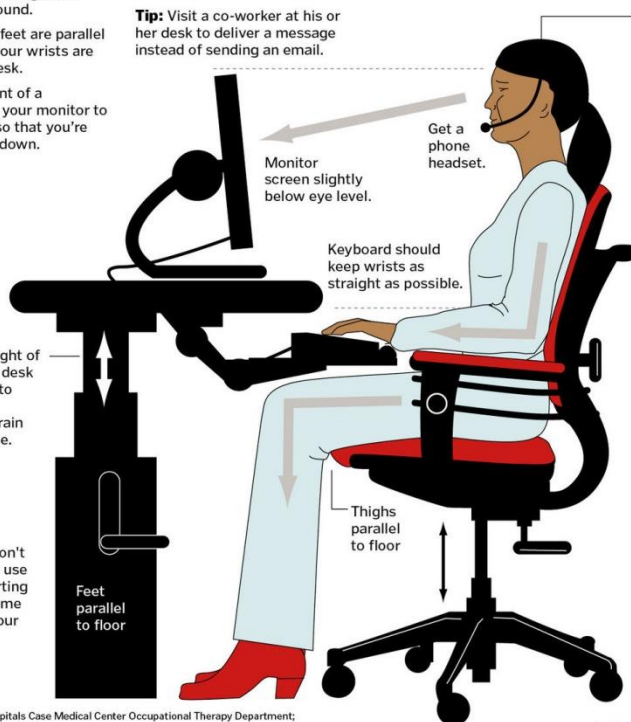
**Tip:** If you spend more than 30 percent of your day on the phone, use a headset to avoid straining your neck. Position the phone on your non-dominant side so that you can easily jot down notes as you talk.

**Tip:** Every half hour, take a micro-break for a minute or two, Bitzer suggests.



1. Let your arms hang down to your sides and shake out your hands and wriggle your fingers.
2. Shrug your shoulders, then move them in a circular motion first back then forward. Finally, pull your shoulder blades together and release them.
3. Pump your ankles and point and flex your feet.
4. Straighten and bend your legs at the knee.
5. Cover your eyes for a few seconds and then focus them on something on the distance to prevent eye strain.

— Natalie Villacorta,  
The Plain Dealer



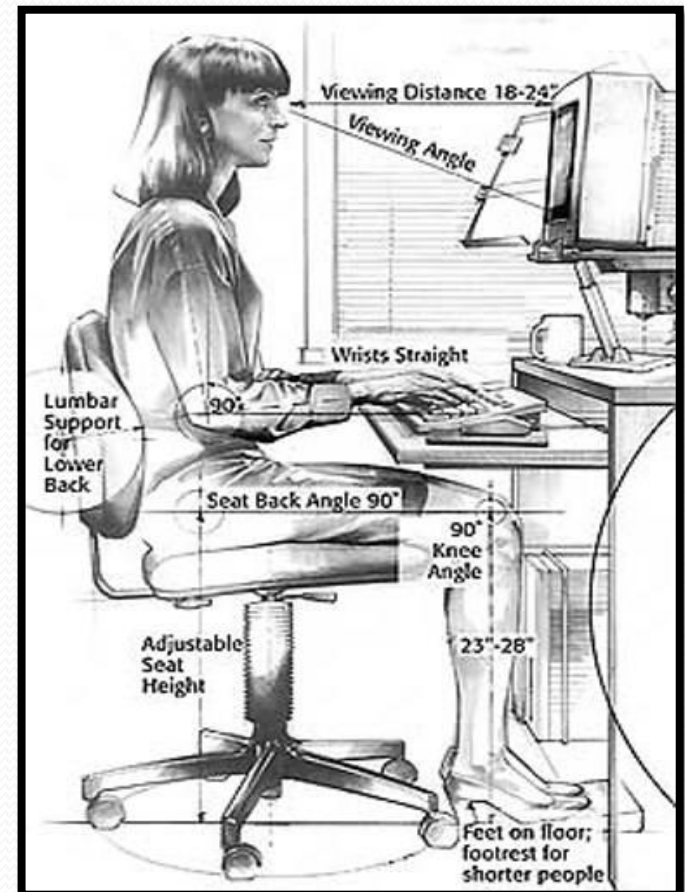
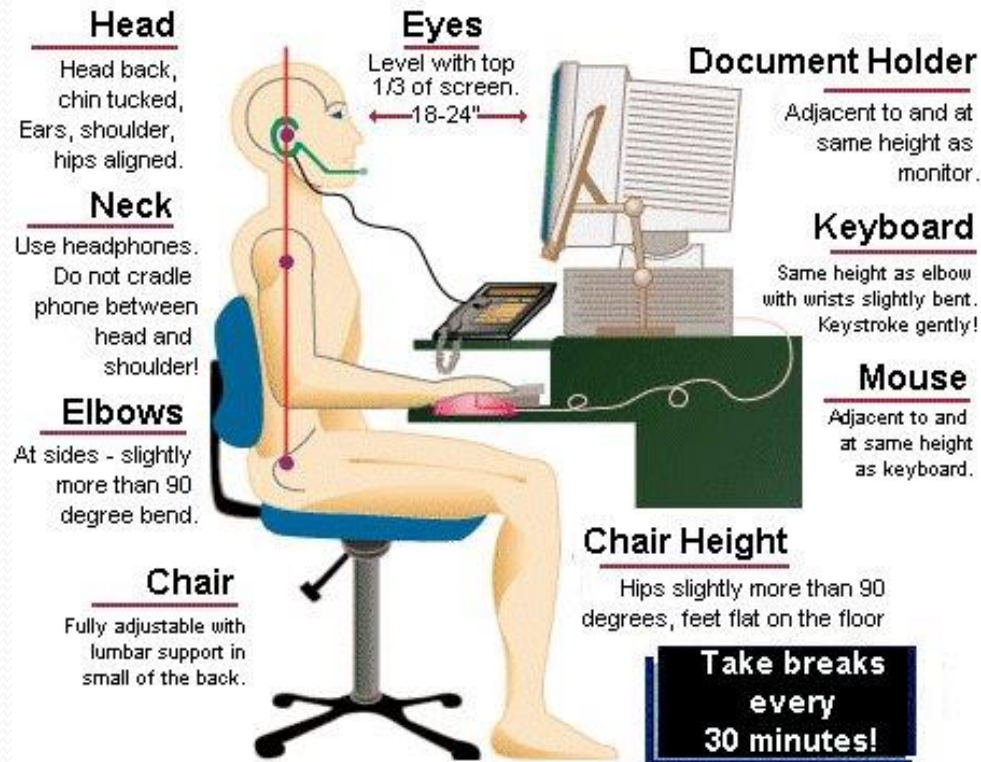
**Tip:** If your feet don't touch the ground, use a footrest. Supporting your feet takes some of the strain off your back.

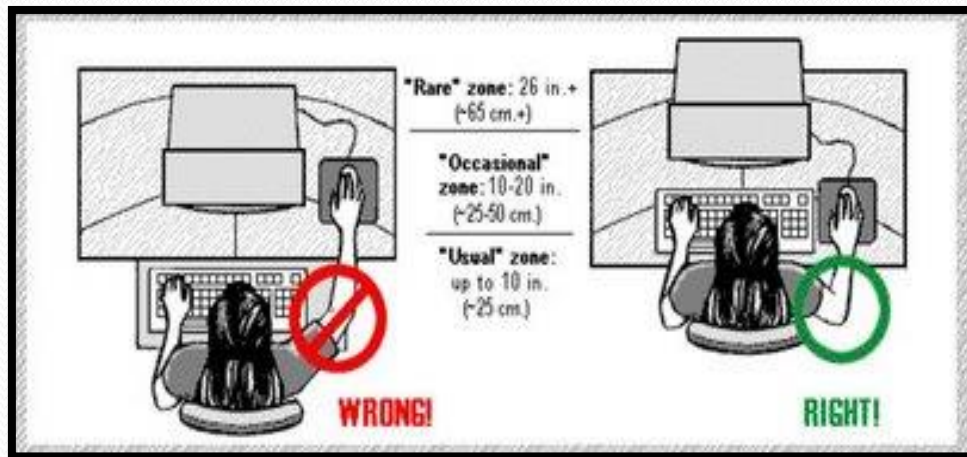
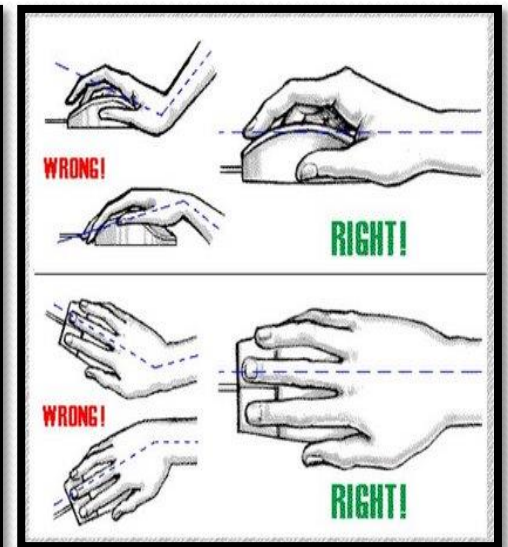
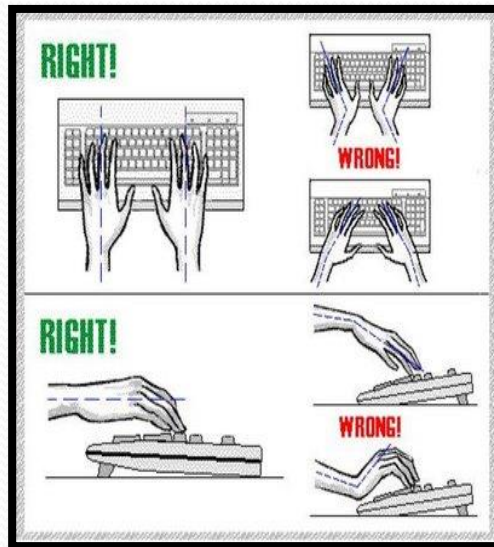
# A = adjustment and alignment

- Adjust the height of your chair, back rest and armrest so that your elbows, hips and knees are bend 90degree angle.
- Forearms and thighs must be parallel to the ground
- Feet parallel to the floor
- Wrist are level on your desk
- Computer monitor at eye-level (eyes must glance slightly down)

# Posture

- Sitting at the office



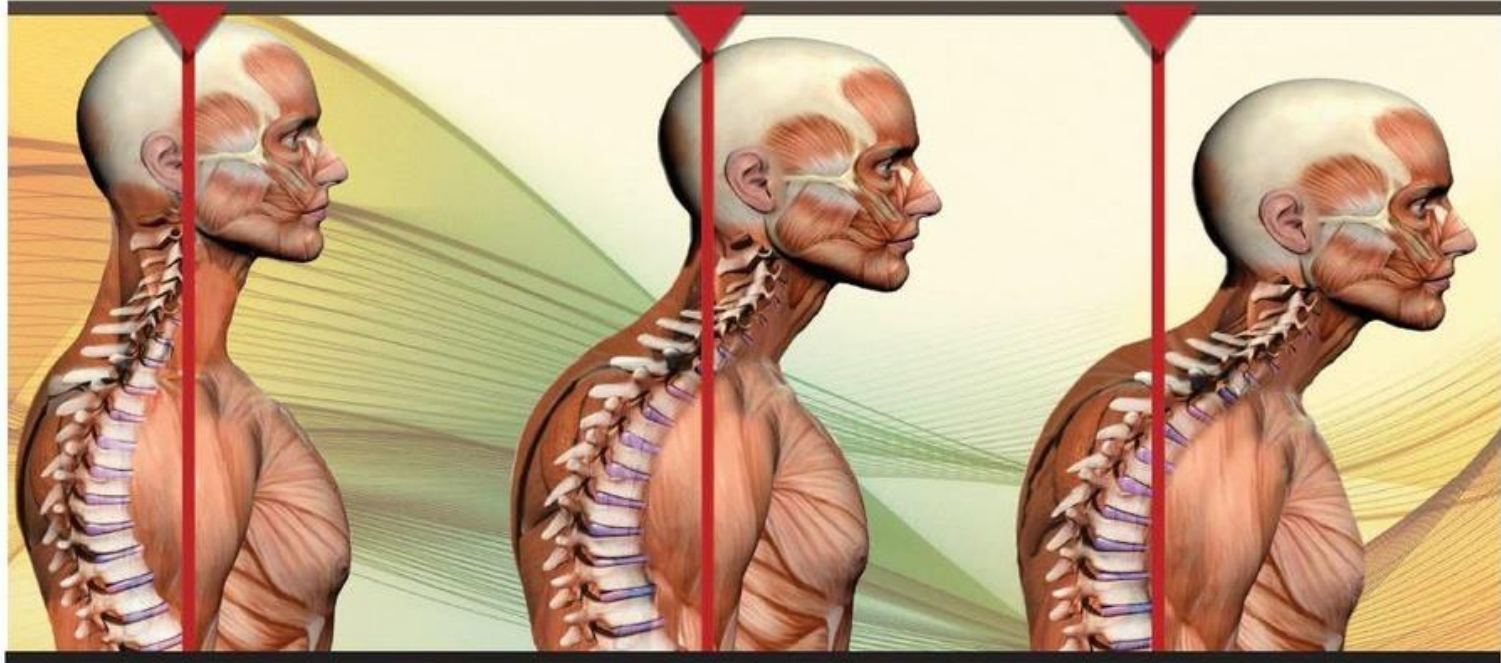


# How Heavy is Your Head?

12 lbs.

32 lbs.

42 lbs.



NORMAL POSTURE

2 INCHES FORWARD

3 INCHES FORWARD

## 42 Pound Head

*"For every inch of Forward Head Posture, it can increase the weight of the head on the spine by an additional 10 pounds."*

Kapandji, Physiology of Joints, Vol. 3

# R= Relaxation

- A brake is beneficial for your mind and body
- If your muscles constantly contract , toxins begin to build up.
- Relaxing improves circulation, removing the toxins and providing oxygen to your tissue

# Relaxation Techniques

**For the following exercises, tense each muscle group for 5 to 7 seconds and then relax for 15 to 30 seconds. Repeat each exercise once or twice.**

Notice the contrast between tension and relaxation.

1. Close your eyes and take a deep breath - gently inhale through your nose and slowly exhale through your mouth. Take another deep breath. Resume breathing normally.
2. Clench your teeth. Release. Notice the sensation of relaxation in your jaw.
3. Shrug your shoulders by gently raising them towards your ears. Relax by lowering them back down.
4. Clench your left fist. Feel the tension through your lower arm. Let it go.
5. Clench your right fist. Hold it tight... and relax. Notice the difference.
6. Bend your elbows and tense your biceps. Relax by lowering your arms down to your sides. Enjoy the feeling of relaxation in your arms.
7. Press your heels down. Push hard... hold... and relax.
8. Curl your toes... hold it...and relax.
9. Point your toes toward the ceiling... feel the tension in your calves... let go.
10. Take in another deep breath, hold it briefly, and let it go.

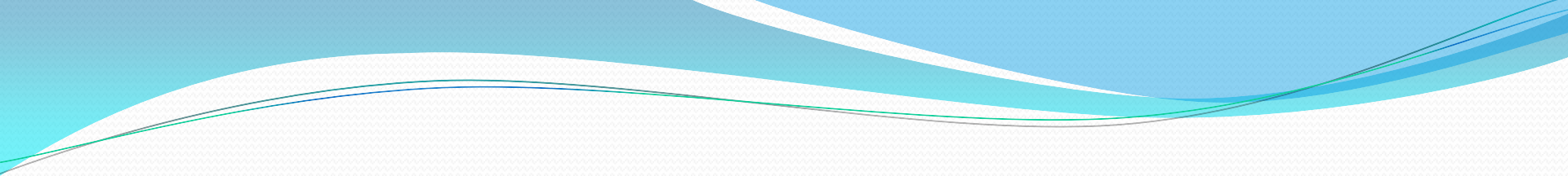
You should be feeling relaxed from head to toe. Take a moment to enjoy the sensation. Try to remember this feeling so that you will now know how you feel when you are completely relaxed. When you feel ready, open your eyes.

# M = Motion

“ There is no bad posture as long as you don’t use that posture all day long”

# S = Standing and safety

- Stand at every opportunity you get



Adjust your workstation to fit your  
body!!!!!!

# Picking up



# How to pick something up.

- Joints in a neutral position
- Keep close to your body
- Avoid bending forward
- Avoid twisting your back
- Alternate posture and movements
- Avoid excessive reaches
- Avoid carrying out tasks above shoulder level
- Try and limit the load that you want to lift ( or ask for help)
- Avoid carrying loads with one hand
- If a trolley is available use it.

# Heat

- ICE for acute injuries
- Heat for sub-acute to chronic injuries
- No swelling or inflammation



# Computer program/ Red dot



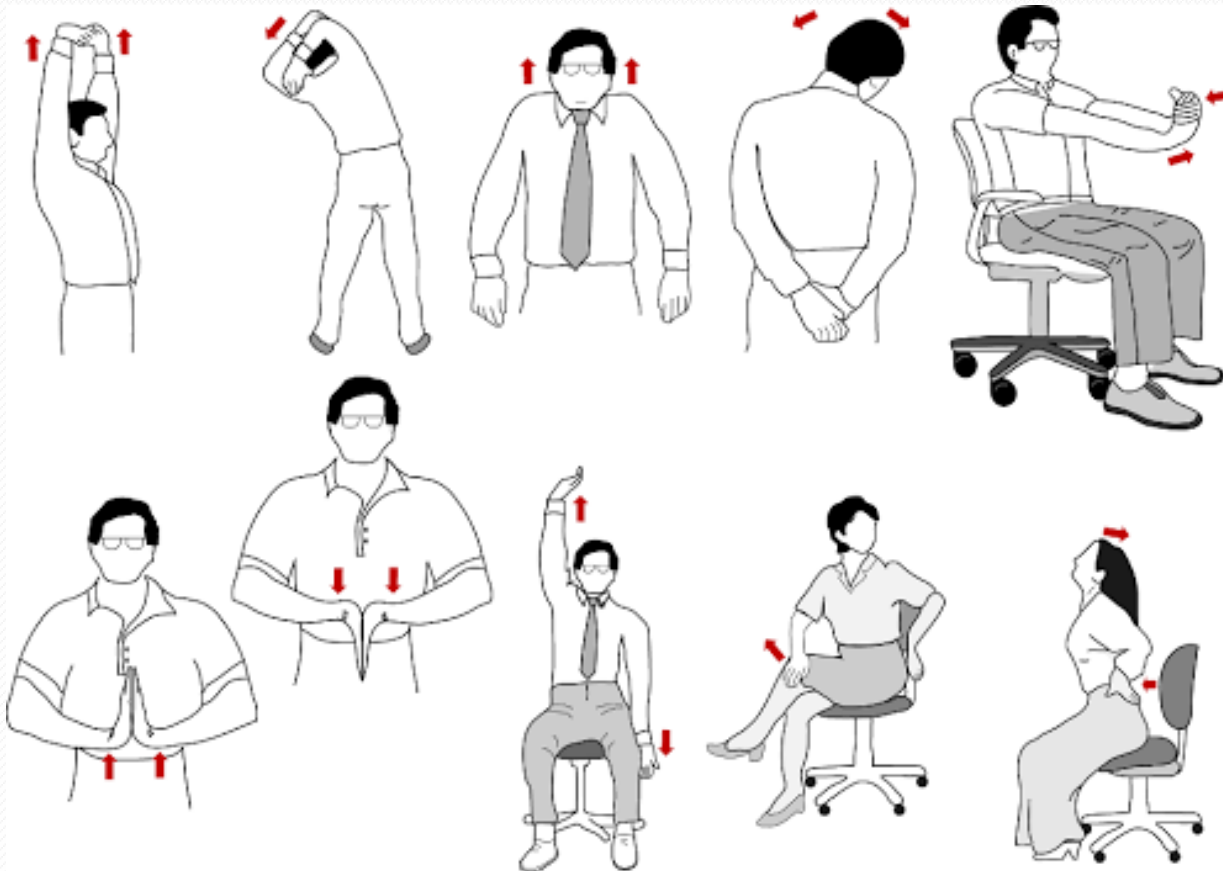
# Exercise at the office/Stretches?





# Exercise at the office

- Pause exercises



1. Roll shoulder 5x



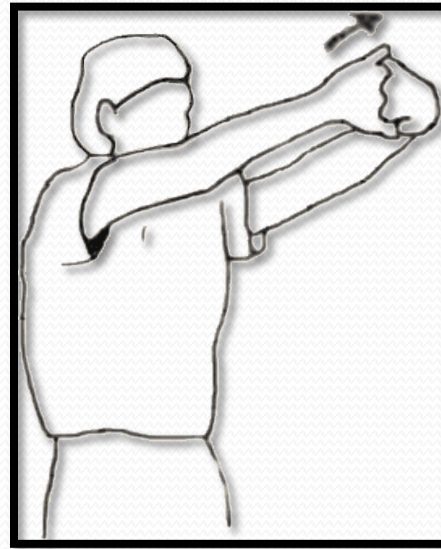
2. Stretch neck to the left and repeat to the right. Repeat 5 x.



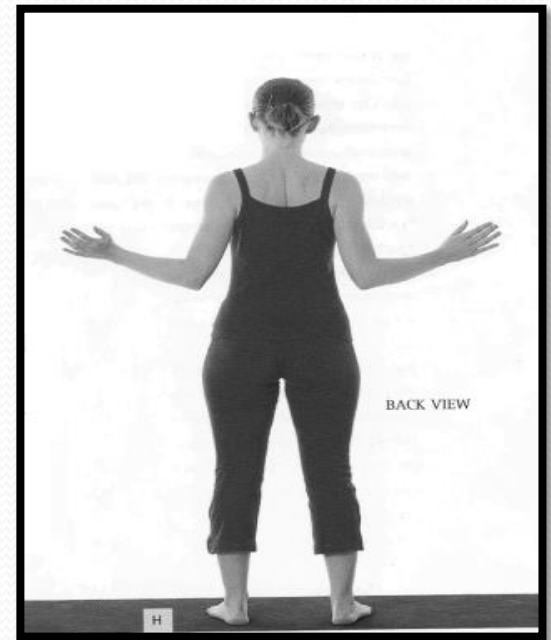
3. Roll shoulders 5x



4. Push arms forward, feel your scapula move forward.  
Repeat 5x.



5. Turn thumbs out (arms backwards) , feel scapulas move together. Repeat 5 x.



6. Roll shoulders 5x



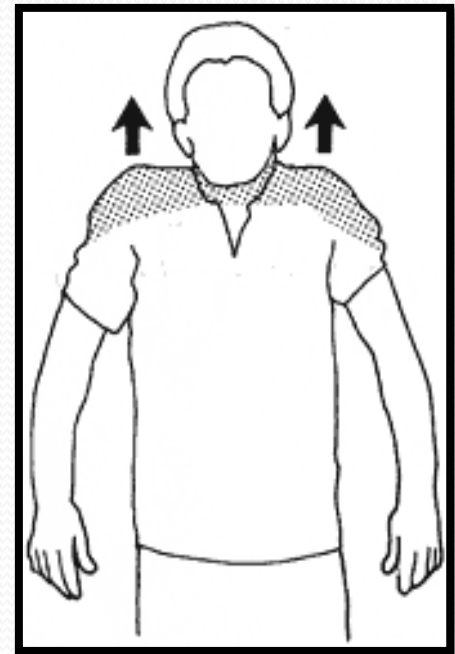
7. In standing, keep your arm next to your body with your elbows straight. your arms must be turned outwards and your wrists upwards. Keeping your body still, push your right hand towards the floor. Repeat with the left arm. Repeat whole exercise 5x.



8. Roll shoulder 5x



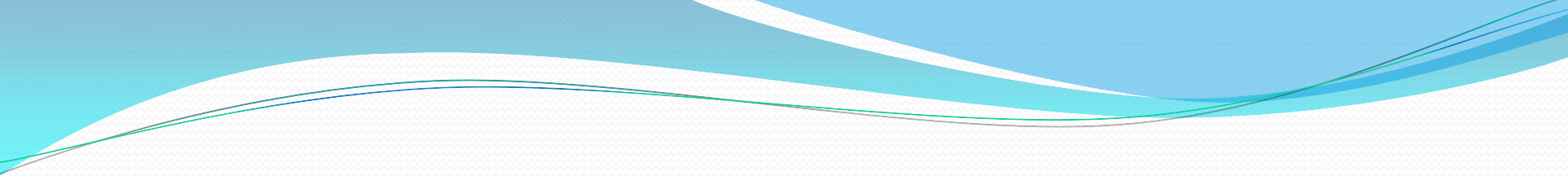
9. Draw your shoulders up towards your ears. Hold contraction for 5 seconds . Relax and repeat.



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**"You could call me a workaholic if I brought  
my work home with me...but I don't go home!"**



THANK YOU!!!