



Fitness Frontline



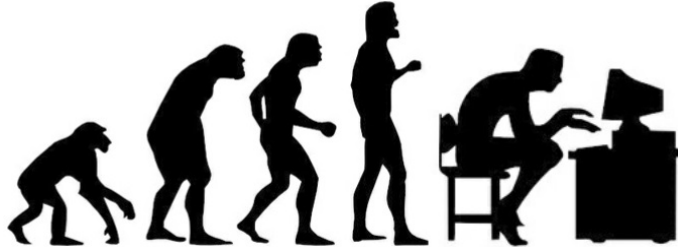
Sit-up-straight workstation assessment

- self-paced learning module -



Hi, I'm John Miller.

Here's what happened:



In the history of time, sitting down all day in front of a desk or behind a steering wheel is a very recent phenomenon. So is a crook back, stiff neck, frozen shoulder, bung hip, Game leg, dicky knee and an aching wrist.

It's usually the case that these dysfunctions are personally-generated; that's the bad news. The good news is that they can be personally 'ungenerated' with the sit-up-straight posture and a regular and systematic strength and flexibility training program.

Bad workmen have been blaming their tools for years!

Blaming the chair and the desk won't get you far.

The chances are that an \$800 chair won't be much better for you than a \$7.95 folding chair from Bunnings!

The only requirement from the chair is that when you sit in it you can sit up straight with your abdomen pushing into the desk and the back of the chair pushing into your back. You're locked in.



Any chair that allows you to sit up straight is a good chair irregardless (sic) how expensive it is or how soft the seat is

The quality of a chair is not based on how much it costs or the thickness of the sponge rubber you sit on, but rather your ability to support yourself in the best possible posture.

Coupled with the chair is the desk and how close into the desk you sit. It's got to be the right height for you. I see too many 150cm people sitting at desks designed for people who are 180cm.

Your grade 4 teacher was right, 'Sit up straight'.

Sit up straight

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The cause of the pain is rarely at the site of the pain

Form (skeletal alignment) follow function.
The less we move, the less we are capable of moving.

Effective therapies treat the whole body as a unit.

Pain is the body's voice. Listen to your body.

You are pretty smart. But your body is smarter.

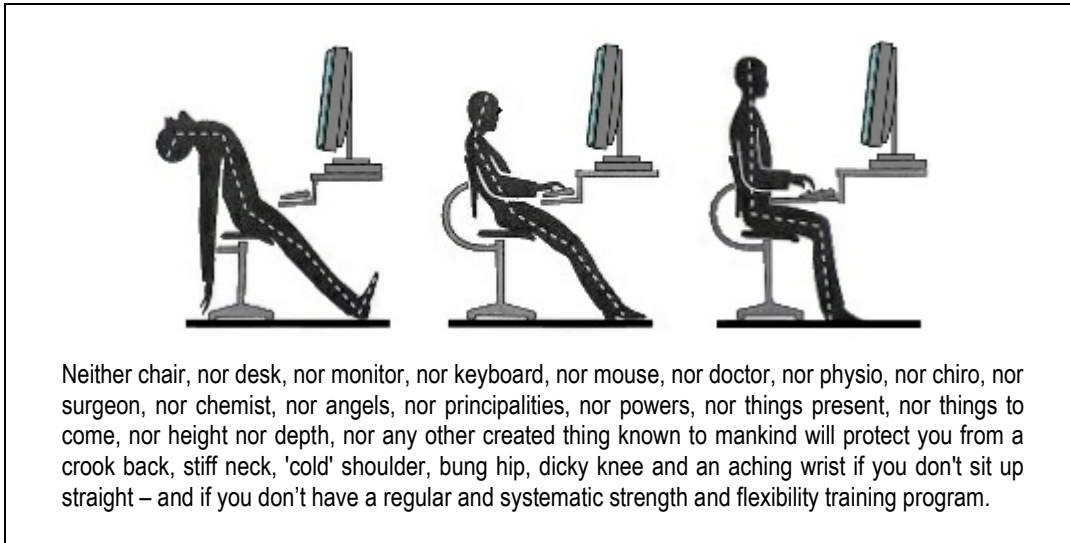
Age is not the determining factor in health.

Muscles that do not move are soon muscles that cannot move.

Pete Egoscue



INTRODUCTION – sit up straight

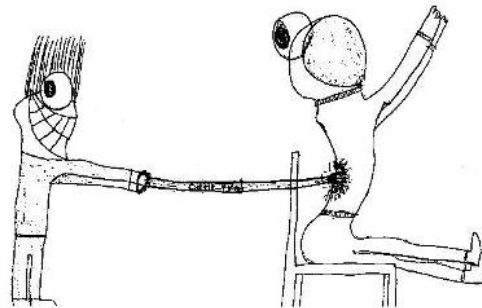


Sit up straight – back of the chair bolt upright and abdomen pressing into to the desk! You *have* to, because the ergonomists are yet to design a chair which will stop you from slouching.

The definition of slouching is '*tilting your pelvis back; contorting your spinal column into the 'C' shaped position, i.e.: taking the natural hollow out of your lumbar spine.*'

As a consequence your head and shoulders are tipped forward.

That's why you get lower back pain, frozen shoulders, a stiff neck and sore wrists.



For most people, their joint and muscle pain is a fitness problem not a medical problem. Except in the end stage, you can't treat a fitness problem with a medical solution.



THE PROBLEM

Over the years I've learnt a lot from watching people sitting at their desks.

I see them sitting in chairs that are the wrong height, chairs where the back-rest isn't upright. I see them sitting at desks that are also the wrong height.

90% of the people I see at their desks are sitting with their abdomen 'miles' away from the desk - and 90% of those people are in the 'slump dog' position. Over the weeks, months, years and decades the hamstring and buttock muscles become tighter and tighter, tilting the pelvis backwards and moving the shoulders and head forward.



This posture is the major cause of lower back and neck pain. I know that 50% of people, when asked to rate the current condition of their musculo-skeletal system give themselves 5/10 or less.

Part of the agony is caused by their sitting posture but a lot of it comes from tight calf, hamstring and buttock muscles – which take first the pelvis, then the bones above and below it out of alignment.

These people don't understand that the cost of sitting down all day comes at a price – the need to keep your skeleton in correct alignment.

Then I see people blaming their back and shoulder pain on a lifting incident that people in good musculo-skeletal health take in their stride. If you don't have a regular and systematic strength training program, be prepared to put up with all manner of joint and muscle pain. These people are struggling to do one pressup, one squat and one situp. They don't have a set of dumbbells to strengthen their arms, shoulders and wrists.

THE SITTING DOWN VICIOUS CYCLE

Slouching in a chair at work five days a week, year after year, leads to tight hamstring and buttock muscles which in turn lead to slouching more and more – which leads to back, neck, shoulder and wrist pain. Slouch at your own peril.



**Tight calf, hamstring
and buttock muscles**

If the doctor and the radiologist can't determine the cause of your joint and muscle pain you can be certain that the prescription to fix the problem will be inadequate. Telling someone their sore knee is due to arthritis maybe correct; but without determining what's caused the arthritis it's a cop out. You deserve a better answer?

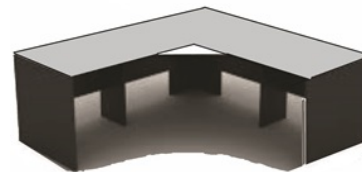


WHAT'S STOPPING YOU FROM SITTING UP STRAIGHT?

It's definitely not a lack of *thinking* about sitting up straight. Just *thinking* about sitting up straight won't do much for your back. You can only *think* about sitting up straight for a couple of minutes and then your mind wanders off to think about something else. As soon as you stop *thinking* about sitting up straight you start slouching - unless you're locked in close to your desk.

There are (at least) 10 key issues that need to be addressed. (I'm sure there's more, but 10 will do for now.)

1. You need a chair that provides good upper back support. It's good upper back support that helps keep the 'S' shaped curve in your lumbar spine, not an extra piece of sponge rubber! (If you're an executive, and you work at your desk a lot, ditch the 'executive' chair and get a good, common-or garden-typist's chair.)
2. You need a desk that's the right height for you.
3. You need to move your chair in as close to your desk as you can. If your chair is a long way away from your desk, there's a good chance you'll adopt the slouch position. Locking yourself in close to your desk (with abdomen pushing into the desk) will immediately get you sitting up straight.
4. Over time, the slouch position contributes to a tightening of your calf, hamstring and buttock muscles. When that happens your pelvis tilts backwards. The slouch position becomes even more exaggerated. You've set up the vicious cycle of musculo-skeletal dysfunction
5. If you're sitting up straight with your abdomen pushing into the desk you'll most likely need to push your keyboard and screen further away from you.
6. If you're short of leg and the desk is too high- and you can't get a lower desk, make sure you get a footrest.
7. Lack of shoulder, arm and grip strength.
8. Your back and abdominal muscles aren't strong enough to support your spinal column.
9. If you're sitting in a corner, make sure you get a corner keyboard tray
10. Being overweight dramatically reduces mobility.

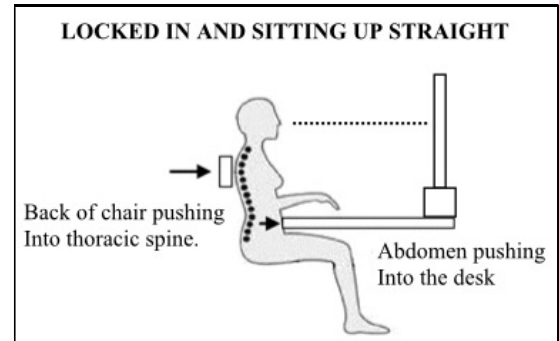


If you want to be pain-free within the next hour or so, go to the chemist. But if you want to be pain-free within the next 6 months (maybe more, maybe less) start doing the flexibility exercises that will get your skeleton back into better alignment and the strength exercises that will support the skeleton as it goes about everyday tasks.



HERE'S WHAT YOU NEED TO DO

- Take the arm rests off your chair so you can get your chair close into your desk.
- Adjust the back rest to an upright position so your thoracic spine is well supported.
- Adjust the height of the desk so your feet are flat on the floor and the top of your thighs are no more than 3cms from the bottom of the desk.
- Push your chair in so your abdomen is pushing in against the desk.
- Adjust the height of your monitor so that when your eyes are look straight ahead they are looking at the middle of the screen.



Here are a couple of tips from Tijana Sefic, of 'Ergonomics for Good Health.'



To get the right seat height, stand in front of the chair and adjust the height of the seat so it is approximately level with your knees.



To gauge whether the seat is the right length, the space between the front edge of the chair and your lower legs is about the size of a clenched fist.



Adjust the back rest so it supports the curve of your back – and press your abdomen into the desk.

STAND UP, STAND UP

When sitting down's the killer, I don't know why more people don't stand up to work.

Spend as much of your day as you can standing up. If 'they' won't get you an adjustable desk get a box to put your keyboard and mouse on, tilt the monitor back a bit and you're in business.

No-one ever said you have to sit down all day. In the history of the world this is a very recent phenomenon. It's one of the reasons why 30 - 40% of people have crook backs.





SPEND TIME SITTING ON THE FLOOR

If you've got some reading to do, why not read, sitting down on the floor with your legs straight out in front of you and your back pressing into the wall.. You'll automatically loosen off your hamstrings.



BALANS CHAIR – the sit-up-straight chair

I don't know why more organisations don't recommend this chair to their staff, or why staff don't get one for themselves and bring it in to work.

When you sit on the Balans chair you immediately sit up straight with the 'S' shaped curve in your spinal column.

The reason you sit up straight is that your pelvis and spinal column are no longer impacted upon by the effect of tight calf, hamstring and buttock muscles.

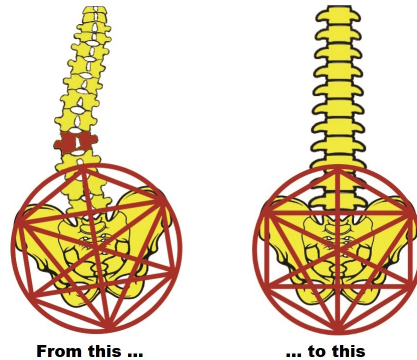


There is a high likelihood that joint and muscle pain (particularly back, hip and knee pain) is the symptom of a system problem. The skeletal system is out of alignment.

For example, if one 'part' (your lower back) of the skeleton is in pain, it's a fair chance that you have a system problem, not just a 'part' problem. Fix the system and the parts will look after themselves.



IT'S THE SYSTEM – workstation set up – sitting posture – strength and flexibility training programs



Look after the musculo-skeletal system, keep it in good alignment, keep it supported by strong muscles and the parts will look after themselves.

Sit up straight

How can sitting posture affect parts of the system – lower back, shoulders, neck, wrists ...?

If you sit down for the best part of every day, without a flexibility training program, the muscles attached to the pelvis tighten up and take the pelvis out of alignment. It's then highly likely that bones above and below the pelvis will be taken out of alignment too. It's pretty much potluck in which part of the system you'll feel the pain, the most 'popular' being lower back, neck, shoulders, hips and knees.

Allied with the **Sit up Straight** program are the **Safe Lifting** and **Back in Alignment** programs and the **Clinical Diagnostic Assessment** of personally-generated joint and muscle pain. All of these programs stress the fact that the cause of the pain is rarely at the site of the pain.

This means that if you have lower back, neck or shoulder pain, rubbing the spot where it's painful is not going to solve the underlying cause of the pain. The pain is most likely caused by general postural misalignment which in turn is caused by:

- tight muscles that have taken your skeleton out of alignment and
- weak muscles that have failed to support the skeleton as it goes about everyday tasks.

Treating the symptom by rubbing, crunching, heating and electronic muscle twitching ... the spot where it hurts, rarely treats the underlying cause of the problem.

As Bill Clinton might have said, *'It's the system stupid.'*

Treat the cause, not the symptom.

To summarize, when it comes to sitting down, joint and muscle pain is just a symptom of misalignment of bones caused by poor posture. The secret to protecting your body from succumbing to the joint and muscle pain that accompanies sitting down for long periods of time (hours a day, weeks, months, years and decades) is to

- set up your workstation to suit your size
- sit up straight and
- adopt a regular and systematic strength and flexibility training program.



KEEP YOUR MUSCLES STRONG

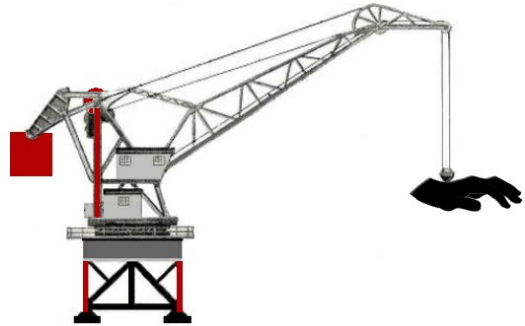
If you've been working all day with your hands out in front of you, of course the muscles supporting them are going to become fatigued.

Unlike the crane you don't have a big counterweight attached to your body to support your arms and hands. All you've got is the muscles in your forearms and shoulders, the muscles of your chest and upper back, the muscles of your lower back and your abdominals and the leg muscles that anchor your body and keep your pelvis in good alignment.

However, when sitting with your hands suspended in front of you all day you're putting your shoulders, arms and wrists under extreme strain.

The upshot is that you are leaving yourself at grave risk of neck, shoulder and wrist pain if you don't have a full body strength training program.

In fact it would be a nonsense to believe that you could keep your back, neck, shoulders and wrists in good health without a regular and systematic strength and flexibility training program.



STRENGTH EXERCISES

You need to do a range of strength exercises on a regular basis.

CORE STRENGTH EXERCISES

My definition of core muscles is those muscles that are connected to the pelvis, spinal column and shoulders.

No chair yet devised will protect you from joint and muscle pain if you're not strong enough to hold your body upright while you work.

Sit ups



Press ups



Squats



Superman



Build up slowly. You'll know you're in good shape when you can do 30 squats, 30 pressups and 30 situps on the trot and do a minute's worth of superman and hang for a minute.

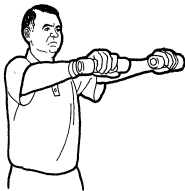


STRENGTHEN YOUR SHOULDERS

One minute arm and shoulder exercise

Select a weight that you can comfortably use. For women start with .5kg in each hand. For men, start with, say 2Kg in each hand and aim to increase the weight to 4 Kg in each hand. The aim is to build the exercise up to 4 sets of 4 repetitions to the front, 4 to the side and 8 up above your head. It should take about 1 minute to do all 64 repetitions. Gradually build up the amount of weight you use.

Arms to the front



4 repetitions

Arms to the side



4 repetitions

Arms above the head



8 repetitions

Dumbbell overs and unders – back over your head, and down (under) to thighs.

Do three sets, each of 10 repetitions. One repetition is taking the hands back to the floor over your head and down to the floor by your thighs.

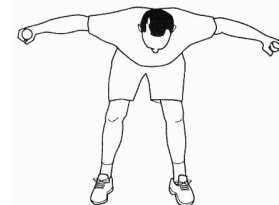


Start with the same weights as for the one minute shoulder exercise. Over time, increase the weights.



Strengthens pectoral muscles at the tip of your chest and shoulder muscles.

Flys – chest and upper back



Strengthens muscles of the upper back and shoulders.

STRENGTHEN YOUR FOREARMS, WRISTS, HANDS AND FINGERS

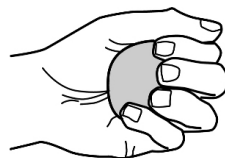
Forearm curl



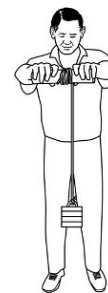
Grip strengthener



Ball squeeze



Wrist curl

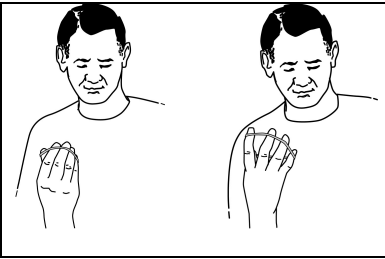


Hang

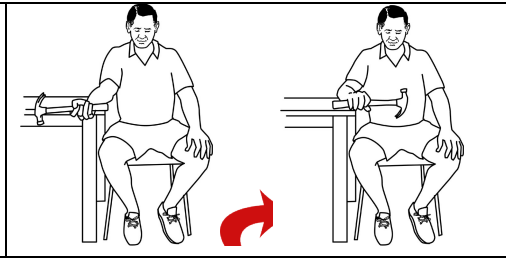




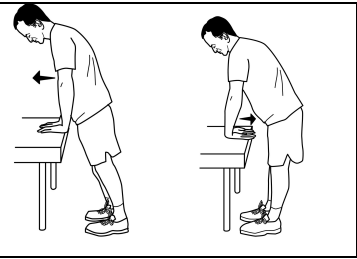
Rubber band finger exercise



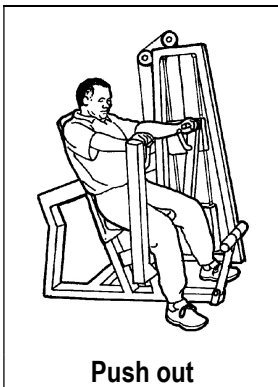
Rotating hammer exercise



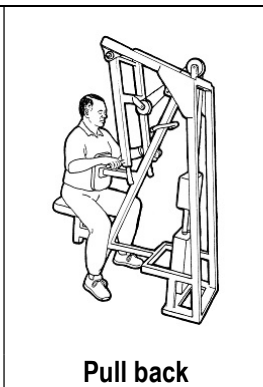
Press hands forward and back



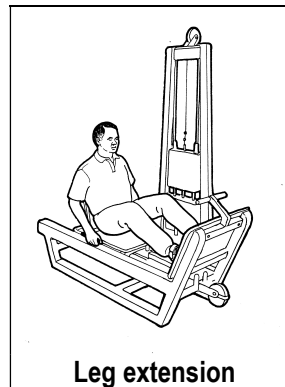
STRENGTH EXERCISES IN THE GYM



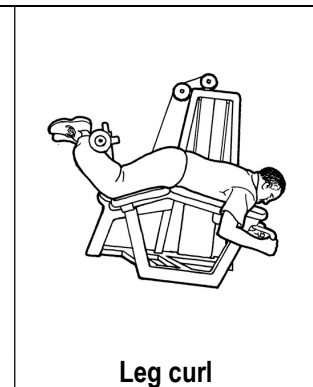
Push out



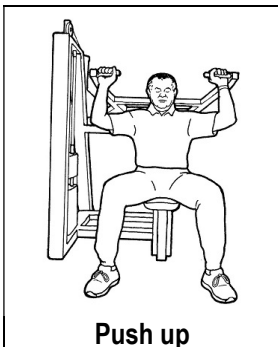
Pull back



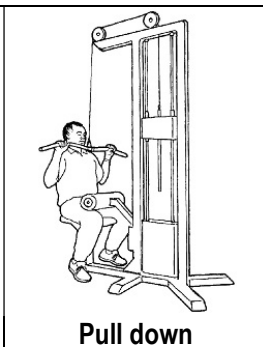
Leg extension



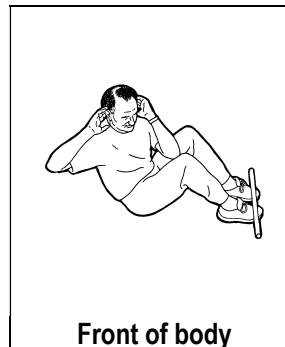
Leg curl



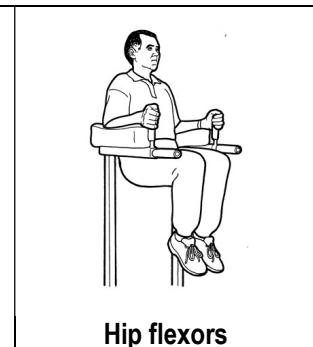
Push up



Pull down



Front of body

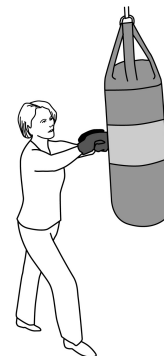


Hip flexors

PUNCH HARD AND PUNCH OFTEN

Here's a good way to give your trunk, shoulders, arms and hands a good work out.

I reckon that if everyone did 100 punches every day, offices around the world would be wiped clean of sore shoulders, arms and wrists.





KEEP YOUR MUSCLES LOOSE

Here are two graphic examples of what tight hamstring and buttock muscles can do to take the skeleton out of alignment. At the time the photos were taken, these men were off work and on workers compensation because of their back pain. The treatment involved rest, together with rubbing, and the application of heat at the site of the pain.

1. an example of tight hamstring muscles,

This fellow was asked to sit up straight against the wall.
He adopted this position.



2. an example of tight buttock muscles.

This fellow was asked to sit up straight with legs
Crossed and hands clasped behind his back –
without falling over.



The remedy is obvious. Loosen off tight muscles attached to the pelvis and get the skeleton back into better alignment. Problem solved. Pain gone.

A WORD ON WORKERS COMPENSATION

If you're suffering from back and neck pain and your hamstring and buttock muscles are tight, (like the illustrations above) don't blame the desk or the chair, don't blame your employer, don't put it down to accidental injury and don't put in a workers compensation claim. You're suffering from a personally-generated musculo-skeletal dysfunction. You are not suffering from a workplace accident.

To personally ungenerate the dysfunction, spend time on the floor in the evening doing the exercises that loosen off your hamstring and buttock muscles so your skeleton gets back into better alignment. (If you've got sore knees you'll also need to loosen off tight quadriceps muscles). The pain you're experiencing is your own body telling you that that's what you need to do.



FLEXIBILITY EXERCISES - for muscles attached to your pelvis, shoulders, neck, wrists and fingers

BUTTOCK STRETCHES – both sides

Hip crossover	Super hip and thigh stretch	Situp straight buttock stretch
		

Hamstring stretch sequence	Quadriceps stretch
  	

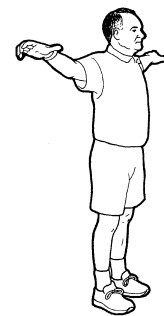
SHOULDER MOBILITY EXERCISES

Wall clock



This is a 3-phase exercise. Stand with feet pigeon-toed and touching the wall with thumbs pointing out. Spend a minute each with hands at 12 o'clock, 10/2 o'clock and 9/3 o'clock.

Arm circles



With palms down and thumbs pointing forward, circle arms forward 20 times. Turn palms up, point thumbs back and circle backwards 20 times.

It's a big ask expecting to get better by having someone do something to you;
sooner or later you have to do something to yourself.



Shoulder blade pinch



Squeeze elbows back to pinch shoulder blades. 20 times.

Elbow squeeze

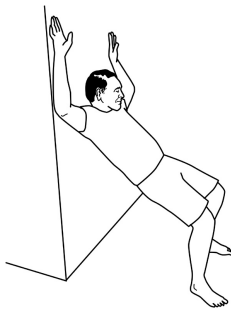


With knuckles on temples, swing elbows back as far as you can and then to touch at the front. 20 times.

Shoulder stretch



With a partner, one person pulls the arms back to stretch the muscles at the front of the shoulder.

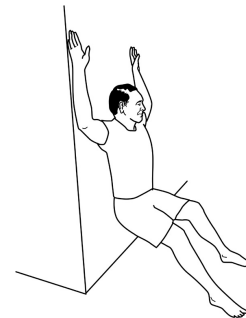


Stand with feet away from the wall, bottom away from the wall and arms flat against the wall.

Slide your body down so thighs are parallel with the floor.

Take your bottom well away from the wall.

In this position you'll be able to place your forearms flat back against the wall.



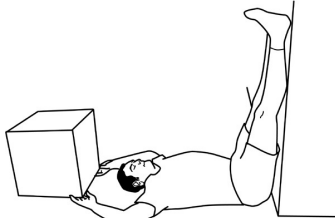
Keeping your forearms flat against the wall, gradually bring your bottom back into the wall, giving your shoulders a good stretch.

You will probably feel the tightness around your shoulders or your lower back.

Stay in that position for a minute. Don't even think of moving your forearms.

Gradually, day by day, week by week you'll loosen off your shoulders.

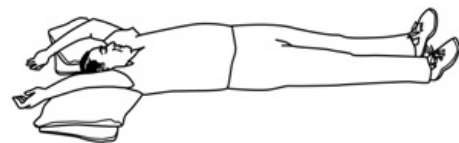
Shoulder stretch with feet against wall



With feet up against the wall, place your arms on the floor as straight as you can get them with the back of your forearm on the floor.

Anchor the fingers under something. Gradually, very gradually, as the shoulders loosen off extend your arms out along the floor. When your arms are straight you'll know you've restored poor function to good.

Shoulder stretch with arms on cushions



If your shoulders are dysfunctional you will not be able to lie on your back with your arms straight, outstretched with forearms flat on the floor.

Rest your elbows on two cushions and let gravity do the work of gradually loosening up your shoulders. As your shoulders loosen up you'll be able to lie with arms straight on the floor.

Spend 20 minutes in this position.



SPECIFIC NECK STRENGTH AND FLEXIBILITY EXERCISES



Neck ups

With your shoulders on the floor, lift your head up so your chin goes toward your chest. Lower the head but don't let it touch the floor. Do 10 repetitions.



Head waggle

Lift your head up about a centimetre off the floor and then turn it so the right ear goes over toward the right shoulder. Then do it on the other side.

Build up to 10 repetitions each side.



Eye to shoulder

Lift your head up about a centimetre then turn it so the right eye goes over toward the right shoulder. Then do it on the other side.

Build up to 10 repetitions each side.

You may find that one side is tighter than the other. Over the weeks and the months you'll gradually get back your mobility.

Neck isometric exercises

The beauty of these exercises is that they strengthen and loosen the neck at the same time. The strengthening takes part on the side where your hand is. It's an isometric strength exercise. The other side has to relax while this is happening, and when you stop pushing, it loosens off.



Turn your head to the side. Place the hand on the cheek and then push the head and the hand firmly together for 7 seconds. Relax and turn the head further behind. Do three repetitions on each side.



Flop your head to the right. Place the right hand under the head but above the ear and push the head and the hand firmly against each other for 7 seconds. Relax and let the head flop down toward your shoulder. Do three repetitions on each side.

Pull your head in



Pull your head towards your armpit. Massage the muscle at the back of your neck with your free hand.

Push head back



Push your head back against the floor for 10 seconds x 3

Push head up



Lift head a centimetre above the floor and then push against hands placed on your forehead. 10 seconds x 3.



WORK SAFELY

CLEAN UP YOUR ACT

They say an empty desk is the sign of an empty mind. On the other hand a cluttered desk is the sign of a cluttered mind. Take your pick.

I see too many desks that are so cluttered there is hardly any space to work.

During your workstation assessment you'll be given great encouragement to take some time out and get rid of all clutter.

At least once a year have a cleanup afternoon. File 'stuff' that needs to be files. Throw out 'stuff' that you no longer need.

When you've done that clean up your email files!



WEAR SAFE AND SENSIBLE SHOES

I'd like a quid for every person I've seen sitting at their desk and walking around the office wearing inappropriate footwear.

In every manual job there are strict rules about footwear. Steel-capped boots are mandatory.

You wouldn't wear high heels on a building site, so why do you wear them in an office?



Sensible shoes are the order of the day for all office workers. If you're a nurse you are obliged to wear sensible shoes, shoes that won't slip on vinyl floors, shoes that you can wear while you're lifting and hovering over patients, shoes that won't catch on an uneven surface and trip you up.

The same sensible shoe rule applies to all offices. The day isn't all sitting, there's walking around, going up and down stairs ...

Tight fitting high heels are a safety hazard. They're a health hazard too. This is what the long term effect of inappropriate footwear looks like. It just adds up to more expense to yourself, Medicare and your health insurance fund.



HOLD ONTO THE RAIL

In many organisations it's well-nigh a sackable offence not to hold onto a rail while going up or down stairs. You only have to trip once in 10,000 times and you could do yourself a catastrophic injury.

All staff have an obligation to call our colleagues who fail to hold onto rails.





GUNNADO

- what are you gunnado to improve your musculo-skeletal health –

If you have any questions, queries, comments, complaints, criticisms and compliments, send me an email.

<mailto:john.miller@millerhealth.com.au>

If you've got good news to report, I'd love to hear it.

John Miller

When it comes to joint and muscle pain:

The cause of the pain is rarely at the site of the pain

Form (skeletal alignment) follows function. Your ability to adopt a range of (Yoga-type) poses is a sign that your skeleton is in good alignment

The less we move, the less we are capable of moving.

Effective therapies treat the whole body as a unit.

Pain is the body's voice. Listen to your body.

You are pretty smart. But your body is smarter.

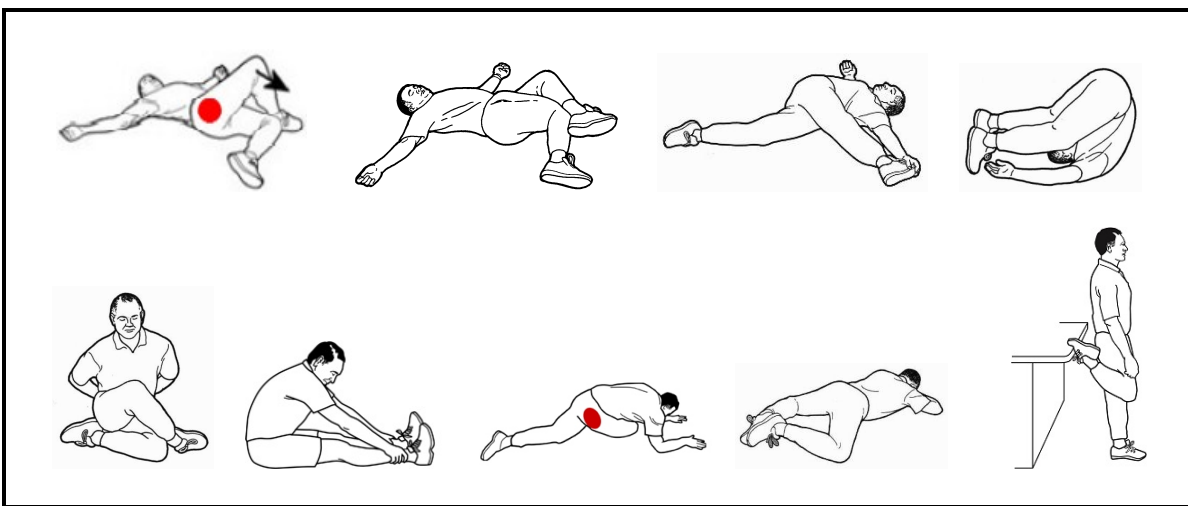
Age is not the determining factor in health.

Muscles that do not move are soon muscles that cannot move.

Pete Egoscue



MY MUST DO FLEXIBILITY EXERCISES IN THE GYM



If you wonder why it is so important for a back to let us know when things are wrong, the answer is simple: the longer the spinal function faults go unchecked, the more strain suffered by the skeleton as a whole. The role of pain is to bring faults to the forefront of our consciousness so they stand a better chance of being fixed.

Sarah Key

