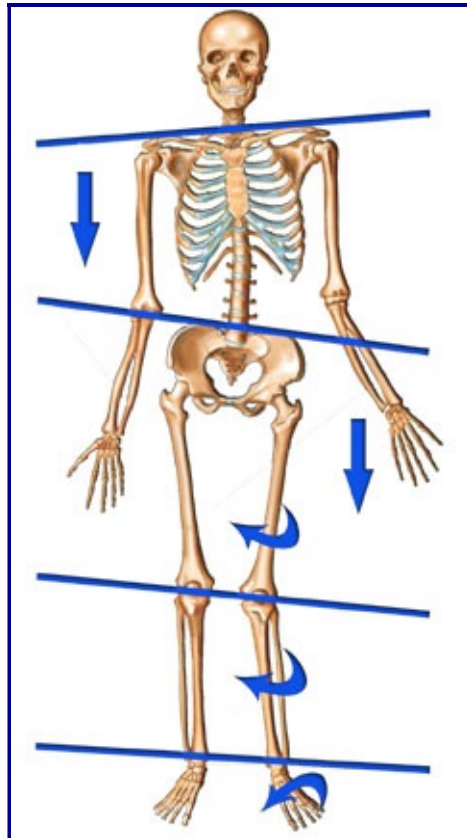


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Musculo-skeletal Health Seminar and Risk Assessment

John Miller

Miller Health

Introduction



The Musculo-skeletal Health Seminar is, for all intents and purposes a physical fitness (strength and flexibility) program designed to

- provide you with information about the most likely causes of personally-generated joint and muscle pain
- audit your personal risk of musculo-skeletal dysfunction
- teach you some of the key exercises you need to do to keep your skeleton in good alignment and your muscles strong enough to do everyday tasks without breaking down.

It's essential that you know how strong and flexible you are. Then you'll know whether you are at risk of joint and muscles pain. If you are already in pain the seminar will provide you with clues as to why you're in pain and what you can do about it

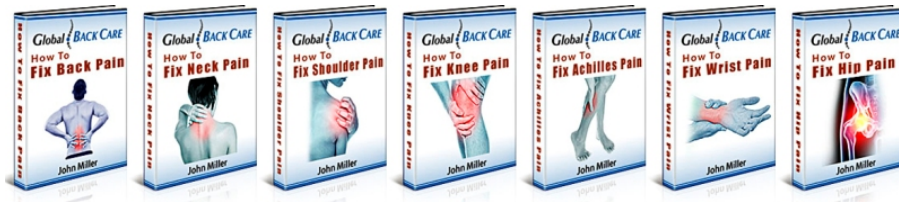
For your employer it's important they know how fit and healthy you are because they're paying your workers compensation premiums. They need to know the risk and manage the risk.

By doing the exercises outlined in this book you can expect a dramatic improvement in the status of your musculo-skeletal health

For 80% of people there's an 80% chance they can get themselves back to 80% of good musculo-skeletal health in 80 days if they're diligent.



The exercises have been developed as part of Miller Health's [Global Back Care](#) program.



There's also more information including the **Clinical Diagnostic Assessment** section in the www.globalbackcare.com website

In the meantime stay tuned, highly tuned and remember, it's a big ask expecting to get better by having someone do some thing to you: sooner or later you have to do something to yourself.

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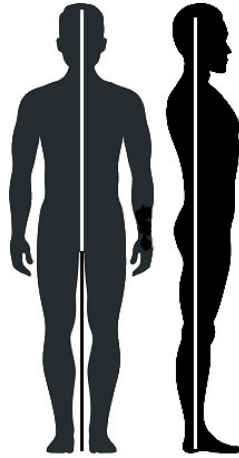
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It's a big ask expecting to be in good musculo-skeletal health without having a regular and systematic strength and flexibility training program.

John Miller

1. Personally-generated musculo-skeletal dysfunction



Musculo-skeletal dysfunction has reached epidemic proportions in our community. By far and away the greatest proportion of this dysfunction is personally generated by people who have failed to keep their skeleton in good alignment and the muscles that support it strong enough to do every tasks without breaking down.

The good news is that if the dysfunction has been personally-generated, there's a better than even chance it can be personally ungenerated.

There is an epidemic extends to workplaces. In most organisations, when asked, 'How do you rate the current condition of your musculo-skeletal system?', 50% of people give themselves 5/10 or less.

The number of people with crook backs, stiff necks, frozen shoulders, bung hips, game legs, dicky knees and limp wrists is legion. The honour roll of people with artificial hips and knees is growing at an exponential rate. Along with the pain that's caused by skeletons that are out of alignment, the private and public cost of poor skeletal alignment and a lack of individual strength and flexibility is horrendous.

The most frequently prescribed treatment is either rest (which means doing nothing and hope the pain goes away) an anti-inflammatory tablet and/or a passive therapeutic crunch or rub down.

At worst the treatment leads on to mutilation when a cartilage or disc is given a shave or a hip or knee joint replaced (without any prior attempt to remediate a problem through strength and flexibility exercise). Treatment no doubt effective in relieving pain and making a new start, but not aimed at restoring the body to its designed state of function.

Passive therapeutic treatment frequently leads to more treatment, not less. It's treatment based on poor diagnosis of the cause of the dysfunction. It's treatment which frequently leads to more dysfunction, not less and to greater rather than reduced dependence on the medical system. For instance, osteoarthritis is, in many instances, an inflammation of the bone caused by two bones that are out of alignment rubbing against each other. The pain is telling us to fix the alignment problem. Arthritis is not caused by a lack of Celebrex!

If you are suffering from musculo-skeletal pain, the good news is that with the right amount of the right exercise there's a better than even chance that poor function can be restored to good and leave you pain free.

I estimate that the cause of most workplace musculo-skeletal 'injuries' is more related to personally-generated dysfunction than the incident that usually gets the blame. And that in turn is related to motion starvation. We don't do enough of the exercises that will keep us in good musculo-skeletal health.

2. Safety Information – the fine print

As a graduate physical educator and fitness practitioner I'm qualified to provide you with advice and exercises that are safe for normal, healthy human beings. Done properly you can expect an improvement in your Musculo-skeletal health.

However, because I have no idea of your current physical condition, I need to provide you with some safety advice and request that you look after yourself during the session.

Tick the boxes to signify that you have read, understood and are happy to comply with the safety information below.

- 1. There is a risk that you could injure yourself during this session. Whilst it is unlikely, you may strain a muscle, tendon or a ligament, particularly if you haven't done any strength or flexibility exercises for a long time. This is a risk you need to be aware of and one which I cannot shoulder.
- 2. You may be stiff tomorrow, particularly if you haven't done any squats, situps or pressups for years. This stiffness is normal. For most people it's a salutary reminder.
- 3. If there is conjecture about the safety of some of the exercises I recommend, I will point out those safety concerns to you.
- 4. If another therapist has said 'Don't do that exercise', don't do it. I'm not going to argue with other therapists in their absence.
- 5. If you don't want to do an exercise, don't do it.
- 6. If it hurts while doing an exercise, stop doing it immediately.
- 7. Look after yourself.

Please sign on the dotted line to confirm that you've read this advice and are happy to participate in the exercise part of this session.

..... Date / /

**It's pretty simple,
either you do it
or you don't.**

3. Health Climate Survey

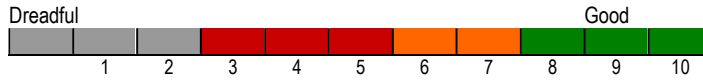
The three major body system dysfunctions of our time are metabolic dysfunction, musculo-skeletal dysfunction and mental health dysfunction. The Health Climate Survey will provide you with an all-round view of your current health status. To complete the survey, circle the number appropriate to the degree to which you experience the symptoms on the left-hand side of the page. The greater the symptom, the higher the score. If you're on medication score ten.

	None	Hardly any	A fair bit	A lot							
1. Headaches (including migraines)	0	1	2	3	4	5	6	7	8	9	10
2. Lack energy and vitality	0	1	2	3	4	5	6	7	8	9	10
3. Candida fungus: furry tongue, thrush, jock itch, tinea...	0	1	2	3	4	5	6	7	8	9	10
4. Poor sleep (Score 10 if you frequently use tablets)	0	1	2	3	4	5	6	7	8	9	10
5. Snoring, sleep apnoea (Score 10 if using mask)	0	1	2	3	4	5	6	7	8	9	10
6. Musculo-skeletal pain, back, neck, shoulders, hips, RSI ...	0	1	2	3	4	5	6	7	8	9	10
7. Frequent colds, flu and sinus	0	1	2	3	4	5	6	7	8	9	10
8. Reflux, unsettled stomach (Score 10 on tablets)	0	1	2	3	4	5	6	7	8	9	10
9. Overweight (1 pt for every 2kg over ideal weight)	0	1	2	3	4	5	6	7	8	9	10
10. Irritable bowel, constipation, trots...	0	1	2	3	4	5	6	7	8	9	10
11. Shortness of breath from asthma	0	1	2	3	4	5	6	7	8	9	10
12. Low level of fitness (Your estimate)	0	1	2	3	4	5	6	7	8	9	10
13. Chest pain, palpitations	0	1	2	3	4	5	6	7	8	9	10
14. Itchy, rashes, skin outbreaks, psoriasis...	0	1	2	3	4	5	6	7	8	9	10
15. Mouth ulcers, cold sores ...	0	1	2	3	4	5	6	7	8	9	10
16. Elevated blood pressure (Score 10 if on tablets)	0	1	2	3	4	5	6	7	8	9	10
17. Elevated blood cholesterol? (10 if on tablets)	0	1	2	3	4	5	6	7	8	9	10
18. Elevated blood glucose? (Score 10 if on tablets)	0	1	2	3	4	5	6	7	8	9	10
19. Shakes, nervous tics and mannerisms	0	1	2	3	4	5	6	7	8	9	10
20. Grinding teeth	0	1	2	3	4	5	6	7	8	9	10
<hr/>											
21. Alcohol intake (2 points per drink/day)	0	1	2	3	4	5	6	7	8	9	10
22. Smoking behaviour (1 point/cigarette/day)	0	1	2	3	4	5	6	7	8	9	10
23. Caffeine intake (1 point per cup)	0	1	2	3	4	5	6	7	8	9	10
<hr/>											
24. Anxious about life, insecure, apprehensive about your future	0	1	2	3	4	5	6	7	8	9	10
25. Are you depressed? (Score 10 if on medication)	0	1	2	3	4	5	6	7	8	9	10
26. Are you in the wrong job?	0	1	2	3	4	5	6	7	8	9	10
27. Do you feel under appreciated at work?	0	1	2	3	4	5	6	7	8	9	10
28. Do you have a poor work/life balance?	0	1	2	3	4	5	6	7	8	9	10
29. Unhappy with your family life?	0	1	2	3	4	5	6	7	8	9	10
30. Unhappy with your financial status?	0	1	2	3	4	5	6	7	8	9	10

The score of a normal, fit and healthy human being is less than

TOTAL

4. Joint Condition Assessment



Score

1. Lower back. Rate the current condition of your lower back.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
2. Upper back. Rate the current condition of your upper back.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
3. Neck. Rate the current condition of your neck.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
4. Right shoulder. Rate the current condition of your right shoulder.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
5. Left shoulder. Rate the current condition of your left shoulder.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
6. Right wrist. Rate the current condition of your right wrist and hand.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
7. Left wrist. Rate the current condition of your left wrist and hand.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
8. Right hip. Rate the current condition of your right hip.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
9. Left hip. Rate the current condition of your left hip.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
10. Right knee. Rate the current condition of your right knee.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
11. Left knee. Rate the current condition of your left knee.

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
12. Right lower leg. Rate the current condition of your lower leg, and foot.
Do you suffer from shin splints, Achilles tendonitis ...

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
13. Left lower leg. Rate the current condition of your lower leg, and foot.
Do you suffer from shin splints, Achilles tendonitis ...

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
14. Right foot. Rate the current condition of your right foot. Do you suffer from heel pain, plantar fasciitis, malformed toes

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----
15. Left foot. Rate the current condition of your left foot. Do you suffer from heel pain, plantar fasciitis, malformed toes

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

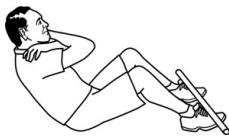
5. Ten-point musculo-skeletal risk assessment

On the next page is the ten-point musculo-skeletal risk assessment.

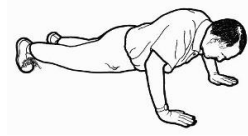
The test items are:

1. Current condition – subjective assessment

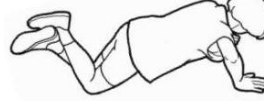
2. Weight and percent body fat



3. Situps



4. Pressups men



4. Pressups women



5. Squats



6. Hamstring flexibility



7. Buttock Flexibility



8. Shoulder function

9. Strength training program

10. Flexibility training program

Pass mark is 70/100. Any score below 50 is an indication of risk or evidence of current dysfunction.

A score of less than 50 is typical of a body that's either weak, over-weight, out of alignment – or probably all three.

It is not unusual for people in good physical condition to score 100/100. To do that you have to have a regular and systematic strength and flexibility training program.

The lowest score recorded was 5/100.

Any score less than 70 is redeemable. All you have to do is train.

Ten-point musculo-skeletal risk assessment - scores

1. Current condition.

How would you rate the current condition of your musculo-skeletal system?

Dreadful										Excellent
0	1	2	3	4	5	6	7	8	9	10

2. Body composition: how close are you to your ideal weight?

Current weight Ideal weight Percent body fat

Kg over ideal wt	>25	<25	<20	<15	<10	<7	<4	<2
% fat men	<40	<40	<36	<32	<29	<26	<23	<20
% fat women	<50	>50	<46	<42	<39	<36	<33	<30
	3	4	5	6	7	8	9	10

3. Lower body strength – squats – until exhaustion #.....

Squat so your bottom goes down to at least the crease in the back of your knees and stand up straight with legs fully extended.

>6	6	8	10	12	14	16	18	20	22	24
0	1	2	3	4	5	6	7	8	9	10

4. Front of body strength – situps feet held - until exhaustion #.....

Men on toes, women on front of thighs.

>6	6	8	10	12	14	16	18	20	22	24
0	1	2	3	4	5	6	7	8	9	10

5. Upper body strength – press-ups – until exhaustion #.....

Men on toes, women on front of thighs.

>6	6	8	10	12	14	16	18	20	22	24
0	1	2	3	4	5	6	7	8	9	10

6. Hamstring flexibility – sit and reach. How far down can you reach.

Can't touch toes	Fingers			Palm			Wrist
0	4	5	6	7	8	9	10

7. Buttock Flexibility - ability to sit up straight, legs crossed, hands behind back.

Right leg under	Big fail	Nope	Almost	Just	Good	Perfect
0	0	1	3	4	5	

Left leg under	Big fail	Nope	Almost	Just	Good	Perfect
0	0	1	3	4	5	

Ttl

8. Shoulder function – stand against the wall, arms vertical in the ‘surrender’ position. The further they are away from the wall (in cms) the lower the score.

>15	15	13	11	9	7	5	3	2	1	Flat
0	1	2	3	4	5	6	7	8	9	10

9. Strength training behaviour

Do you have a regular strength training program. Sessions per week.

0		1			2					3
0	1	2	3	4	5	6	7	8	9	10

10. Flexibility training behaviour

Do you have a regular flexibility training program. Sessions per week.

0		1			2					3
0	1	2	3	4	5	6	7	8	9	10

The ‘pass mark’ is 70/100.

TOTAL/100

8. Cardinal Rules of joint and muscle health



1. (Trauma excepted) muscles move bones out of alignment. That's the bad news. The good news is that if muscles have moved bones out of alignment, there is a fair chance they can move the bones back into alignment. (Egoscue)
2. There is a high likelihood that joint and muscle pain (particularly back, hip and knee pain) is the symptom of a system problem. The skeleton 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. (Feldenkrais)
3. Joint pain is a symptom that the bones on either side of a joint are out of alignment. The joint (bearing) is becoming worn. Get the bones back into alignment - and there's a fair chance the joint (bearing) will repair itself – providing it is not left too long before the realignment process is started.
4. Pain is a symptom that ligaments, tendons and muscles attached to the bones have been stretched beyond their pain threshold; that intervertebral discs have become herniated and may be impinging on your spinal cord.
5. Treat the cause of the pain and the pain will be relieved. Mask the pain with an analgesic and the structural problem remains – and gets worse. A small problem becomes a big problem.
6. The cause of the pain is rarely at the site of the pain.

Once muscles attached to the pelvis draw the pelvis out of alignment, the bones above and below move out of alignment 'in sympathy.' Doing the exercises that square up the pelvis are essential in getting the skeleton back into better alignment.
7. The reason why vertebrae move out of alignment when the pelvis is out of alignment is to keep the head balanced above the shoulders and the eyes horizontal and looking straight ahead.
8. Form (good skeletal alignment) follows function (the ability to successfully perform a range of postural/flexibility exercises).
9. A high proportion of joint and muscle pain is personally-generated. In a way that's good news because chances are it can be personally ungenerated.
10. 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 exercises that will get your skeleton back into better alignment. NOW!
11. The more often you do the re-aligning exercises and the longer you do them for the quicker your skeleton will get back into better alignment.

12. Most joint and muscle pain is a fitness problem not a medical problem, it's a fitness problem. Which begs the question, 'Why are you going to a medical practitioner when you should be going to a fitness practitioner?'
13. Most medical practitioners don't know how to diagnose the underlying cause of joint and muscle pain. The best they can do is shoot their customers off to the radiologist, the chemist and the manipulator.
14. Generally speaking, the advice you're likely to receive about causation from a radiologist will be unhelpful. All the radiologist does is determine 'what is', not what's caused 'what is'. The radiologist doesn't comment on causation, that's the doctor's job. You're caught in a medical demarcation dispute, not that either the doctor or the radiologist are likely to have a firm opinion as to causation.
15. If the doctor and the radiologist can't determine causation you can be certain that the prescription to fix the problem will be inadequate in the extreme.
16. The Australian National Health and Medical Council (NH&MRC) opinion on causation is particularly unhelpful:

'The majority (approximately 95% of cases) of acute low back pain is non-specific; serious conditions are rare causes of acute low back pain.'

The term, 'non-specific' is code for 'it doesn't have a cause', or 'we don't know the cause'. And despite that fact that 'serious conditions are rare', serious and expensive medical treatments, like surgery (coupled with the dangerous practice of prescribing opioids) are becoming more and more common.
17. The information on the Arthritis Foundation or America website is vague and useless. All it can come up with is, 'There is no sure way to prevent arthritis.' It has nothing to say about skeletal alignment or which exercises to do to restore poor alignment to good. One is left with the opinion that joint inflammation (arthro – bone, itis – inflammation) comes from 'out of the blue'. Motor mechanics who adopted this approach to wheel alignment would be out of a job in a few days.
18. Hippocrates said, 'The physician speaks with more authority if he's had the disease.' Rarely is joint and muscle pain a disease – it's most frequently a personally-generated dysfunction caused by a body in poor musculo-skeletal condition.

You don't need to be a physician to give people advice on relieving joint and muscle pain. Someone who has relieved their joint and muscle pain is frequently a useful source of advice.

When it comes to the personally-generated body system dysfunctions, YouTube is becoming a better source of advice than most surgeries.
19. The medical approach to relieving joint and muscle pain is commonly described in the literature as 'the usual treatment' – passive therapy that involves rubbing, crunching, strapping, heating, cooling, vibrating, electronic muscle twitching, creaming, doping and surgery – none of which address the underpaying cause of the pain.
20. Passive therapeutic treatments may provide relief, particularly when used in association with long, slow muscle release, flexibility exercise. To be deemed 'successful' the treatment must be able to restore poor function to good.
21. Passive manipulative therapies often do not have the frequency, duration or intensity to restore poor function to good, - quickly and cheaply.
22. Of the passive therapies, long, slow, deep, mechanical massage may be helpful, particularly for sore calves, Achilles tendons and plantar fascia. With the right machinery you can spend hours a day being massaged while you work.

23. Surgery may be necessary in the case of trauma and if particular joints (hips and knees) are beyond personal repair. Research indicates that a high proportion of people who have had back surgery back feel little better after the surgery than before. Many feel worse.
24. The missing link in the treatment process is the flexibility (and strength) exercises people have to do themselves. The treatment cannot be outsourced to a passive manipulative therapist or a chemist.
25. For 80% of people there's an 80% chance that they can get themselves back to 80% of 'good nick' in around 80 days - if they're diligent.
26. It's a big ask expecting to stay in good musculo-skeletal health without a good strength and flexibility training program.
27. It's an even bigger ask expecting to get better by having someone do something to you; sooner or later you have to do something to yourself.
28. When it comes to relieving joint and muscle pain, 'Nothing in the world can take the place of persistence.' (Calvin Coolidge).
29. The more often you do the skeletal re-aligning exercises and the longer you do them for, the quicker your skeleton will get back into better alignment and the quicker your pain will be relieved.



Here's what skeletal misalignment looks like. Tight hamstrings and tight buttock muscles have taken this fellow's pelvis and the bones immediately above it out of alignment. He was on workers compensation for a crook back. Rubbing and crunching his lower back wasn't doing much to restore poor function to good.

<p>This fellow had a sore knee, but he still couldn't keep his legs straight or his feet square,</p>	<p>With his foot on a table, he couldn't stand up straight with knees close together.</p>

9. Motion Starvation

The major cause of musculo-skeletal dysfunction is motion starvation. We don't move enough. The body that was designed to climb trees, chop wood and draw water can no longer push a pen or tap a keyboard without becoming dysfunctional!

If you want a good example of motion starvation look no further than your shoulders and arms. Due to lack of systematic exercise most people have lost an ability to lift and carry their own weight. As an illustration, next time you're at a children's playground see if you can traverse the full length of the monkey bar. See if you can hang for more than 30 seconds. There is a good chance you won't be able to do it because the last time you did it you were stronger and maybe 30 or 40Kg lighter. (WARNING this is a potentially dangerous exercise for people who are overweight and have lost the strength of their arms and shoulders. You could suddenly let go, land on your back and crack your skull.)

It's drawing a long bow to blame your job for your musculo-skeletal dysfunction. Most of the people I see with back, neck, shoulder, wrist, hip and knee pain are not keeping themselves strong or flexible enough to push a pen or tap a keyboard - let alone wield a crowbar or lump bags of wheat - without becoming dysfunctional. That it should come to this! The species designed to chop wood and draw water can no longer chop wood and draw water!

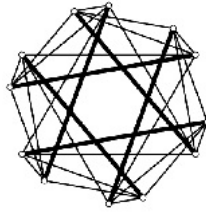
Not that long ago, if you weren't strong enough to wield a pick and shovel you didn't last long in a pick and shovel job. Nowadays, few people would believe they needed to have a strength and flexibility training program to sustain the demands of a sit-down job. Nevertheless, it's true. If you want to protect yourself from sore shoulders, RSI and a crook back, start training.

It's not the mouse, stupid! Of course, the great tragedy of modern office ergonomics is that the chair, the desk and the mouse are blamed unfairly for the cause of musculo-skeletal dysfunction. On the contrary, it is the person with a strength, flexibility and/or postural problem who succumbs to dysfunction.

RESULTS OF THE GLOBAL BACK CARE MUSCULO-SKELETAL RISK SURVEY

1. Only 5% of people had a reasonable strength and flexibility training program. Their average total score on the profile was 84.
2. Only 10% had a reasonable flexibility training program, Their average total score on the profile was 75.
3. Only 17% of people had a reasonable strength training program. Their average total score on the profile was 74
4. The average total score of the 58% of people who had no strength or flexibility training program at all was a miserable 46.
5. Those who were 15 - 19kg over weight had an average total score of 40
6. Those who were 20Kg or more over weight had an average score 36
7. People who couldn't do 1 situp had an average score of 38.
8. People who couldn't do 1 pressup had an average score of 32

10. Tensegrity - the science of joint pain



Our common practice in western medicine is to reduce the body into parts ... and treat them ... in isolation. This form of reductionism is often simplistic. The tensegrity structural design principle recognizes that stability and ease of movement ... are determined by the way the entire system is configured. Kelly Clancy, 'Tensegrity'

The term 'tensegrity' was coined by Buckminster Fuller in the 1960s as a word meaning 'tensional integrity'.

Tensegrity (or in the case of the human body, 'biotensegrity') is a combination of the words 'tension' and 'integrity', that defines a structural principle in architecture. It's a principle that lends itself to illustrating how fascia, ligaments, tendons, muscles and other internal structures work together to make sure the skeleton stays in good alignment.

A weakness or tightness in one part of the body may cause the entire structure to shift and disrupt tensegral balance. Pain appears in one or more joints. The pain is telling you to get your skeleton back into better alignment.

If you have a system problem, the pain is not telling you to rub or manipulate the site of the pain. The pain is telling you to *'fix the system'*. Rubbing, crunching, heating and vibrating the spot where it hurts doesn't fix the system.

A pelvis in alignment stays in alignment unless acted upon by a force.

The pelvis is the largest bony complex in the human body. It's the 'foundation' of what goes on both above it and below it.

The tensegrity of the pelvis depends on the equilibrium created by the muscles, tendons, ligaments and fascia that are attached to it and hold it in place. As muscles attached to the pelvis tighten up, the pelvis is gradually drawn out of alignment. When that happens the structural integrity of the skeleton is disturbed, which explains why the cause of the pain is rarely at the site of the pain. See diagram opposite

Disruption of this tensegrity system is the source of joint degeneration, the symptom of which is joint and muscle pain.

The body is designed to take (as a system) the strain that occurs when moving and lifting. With good lifting technique, the body distributes the strain, with the larger muscle groups doing the *'heavy lifting'*.

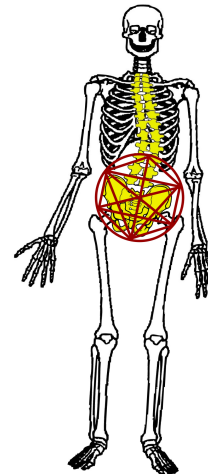
When the skeleton is already out of alignment, the continuous lines of tension in the body are disrupted, the risk of more serious joint and muscle pain is increased. You've been *'tipped over the edge'*.

The whole structure is compromised. It's 'potluck' which joint will be the first to experience pain. Because of their proximity to the pelvis, the most frequently misaligned joints are lower back, neck, hips and knees.

The best therapist

The aim of any therapy is to get the skeleton back into better alignment and supported by strong muscles. Look after the system and the parts will look after themselves!

And the best therapist is yourself. You can't sub-contract out a strength and flexibility training program.

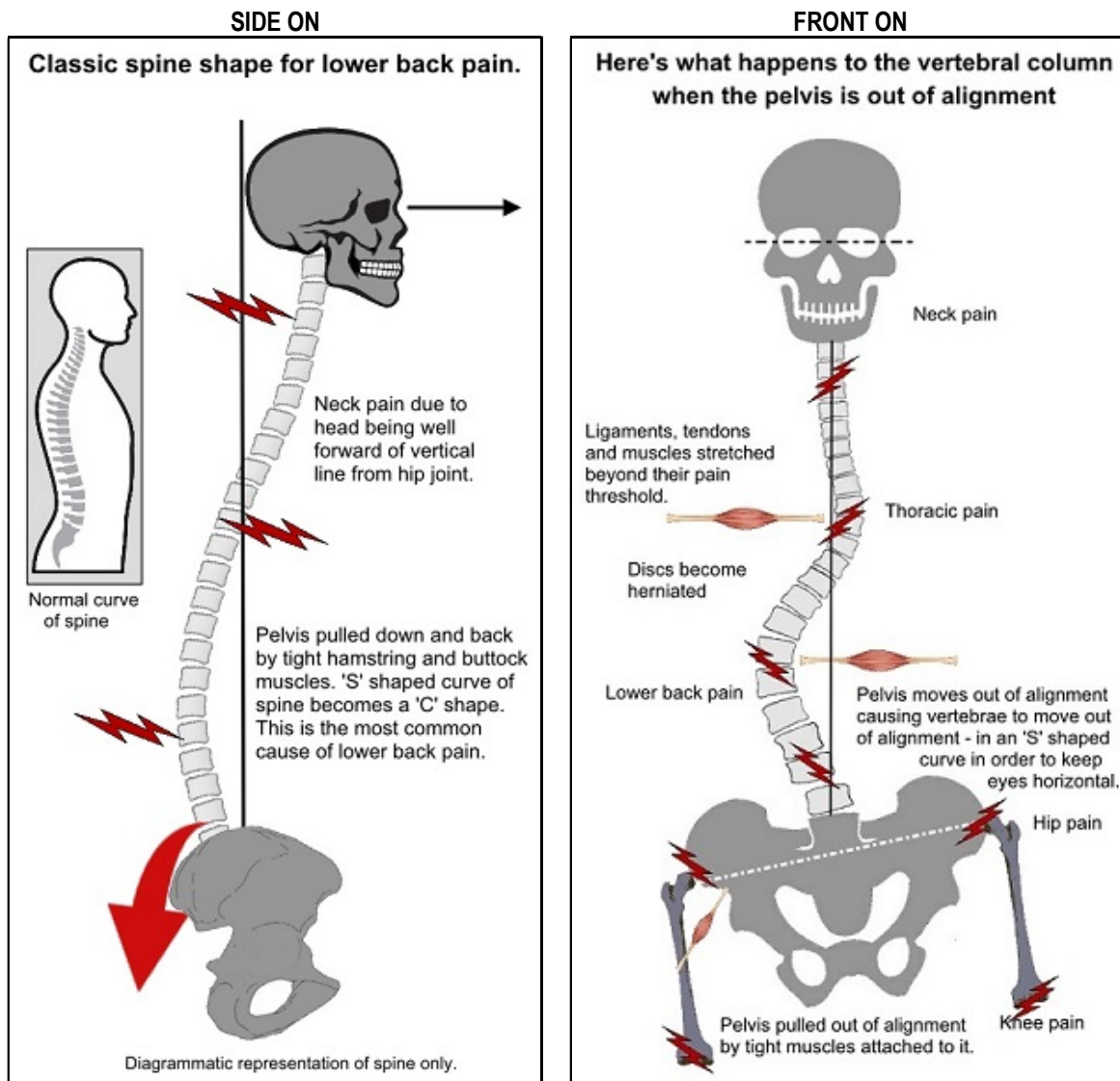


11. The genesis of joint and muscle pain

Whilst lower back pain is the most frequently reported symptom of joint and muscle pain, neck, shoulder, hip and knee pain aren't far behind. Some of the pain - but only a small proportion - is the result of trauma: people have accidents.

Back pain is often alleged to be the result of lifting, but it's an allegation that doesn't stack up well in court. Think about it. People go to the gym and lift weights to make them stronger. Rarely do they come down with back pain. Go figure!

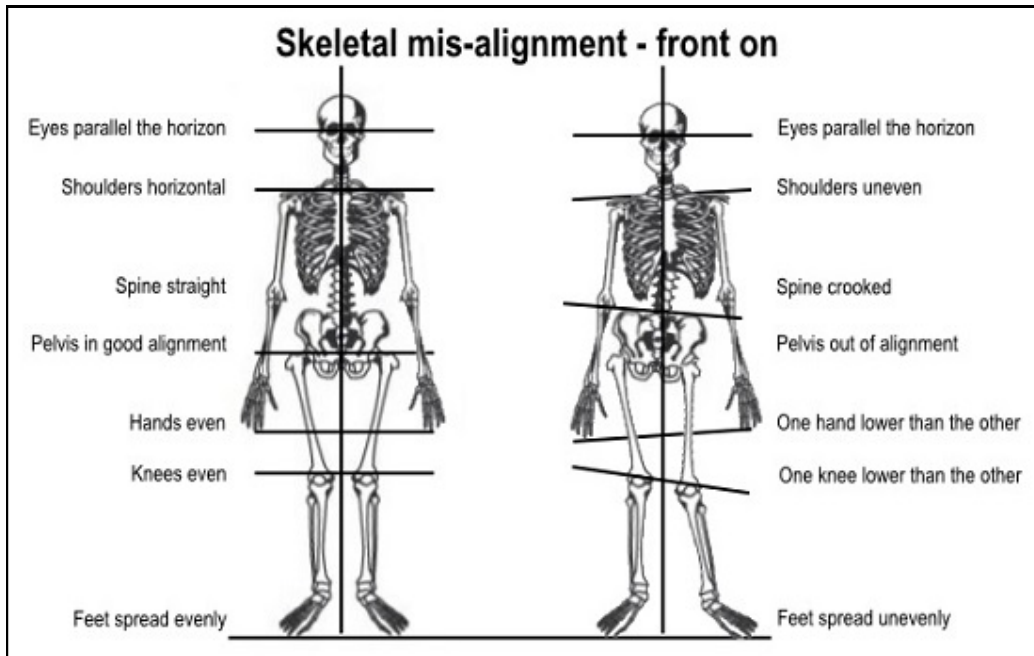
Most joint and muscle pain allegedly caused by lifting is personally-generated. If the skeleton is already out of alignment, if muscles are weak, then lifting a leaf off a lawn is enough to send some people 'over the edge'. The lifting incident and the site of the pain distract our attention away from the most likely cause.



So, who do you blame?

1. Blame tight muscles for taking first the pelvis and then the bones above and below it out of alignment.
2. Blame weak muscles for their inability to support the skeleton while lifting, pushing, pulling etc ...

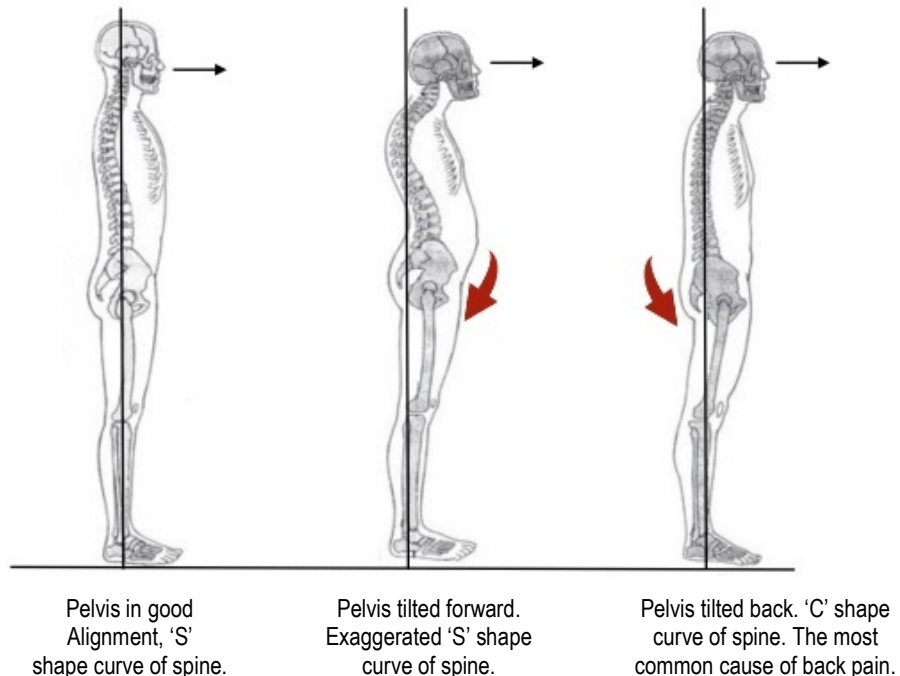
If pelvis is out of alignment, the spine twists and turns in order that the eyes can look straight ahead and remain parallel to the horizon. In the side-on diagram, the natural 'S' shaped curve of the spine becomes a 'C' shape.



If pelvis is out of alignment, the spine bends and twists in order that the eyes can look straight ahead and remain parallel to the horizon. When vertebrae are out of alignment, ligaments, tendons and muscles are stretched beyond their pain threshold. Discs become herniated.

Looking at the spine and pelvis side on ...

Spinal mis-alignment - side on



THE (EXAGGERATED) CLASSIC POSTURE OF SOMEONE WITH LOWER BACK, NECK AND SHOULDER PAIN

Due to the action of tight muscles attached to the pelvis - front, back and sides - but particularly the hamstring and buttock muscles, the pelvis is taken out of alignment.

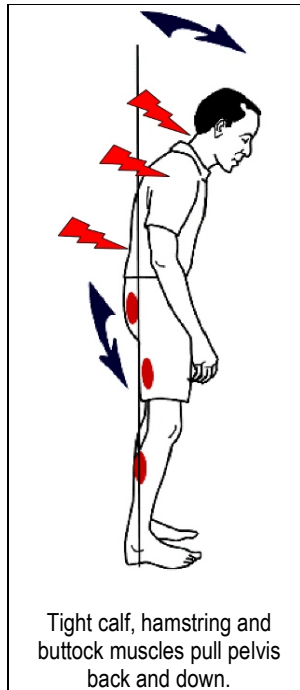
There's collateral damage as bones in the lumbar spine are dragged out of alignment.

The 'S' shaped curve of the back becomes a 'C' shape.

Ligaments, muscles and tendons are stretched, beyond their pain threshold, resulting in continuous pain.

Discs prolapse with the nucleus pinching the spinal column. It feels like someone's shoving a red-hot poker in your back every time you sneeze or cough.

Your experience sciatic pain as the prolapsed disk pinches the sciatic nerve



Bones in the upper part of your spinal column are pulled out of alignment.

Head and shoulders move forward placing stress on soft tissues around the neck and shoulders. It's a principal cause of sore shoulders.

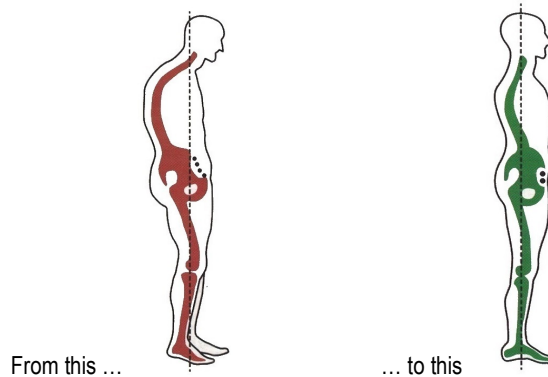
It feels like your upper back, neck and shoulders are on fire.

You're always hanging out for a neck and shoulder massage.

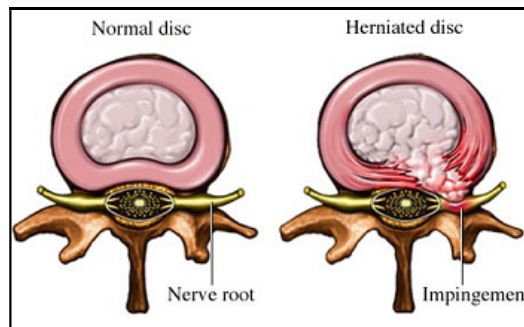
You're always off to the therapist to 'pop' the bones back into alignment.

Back pain is not due to a lack of rubbing, crunching, heating, vibrating, doping or surgery.

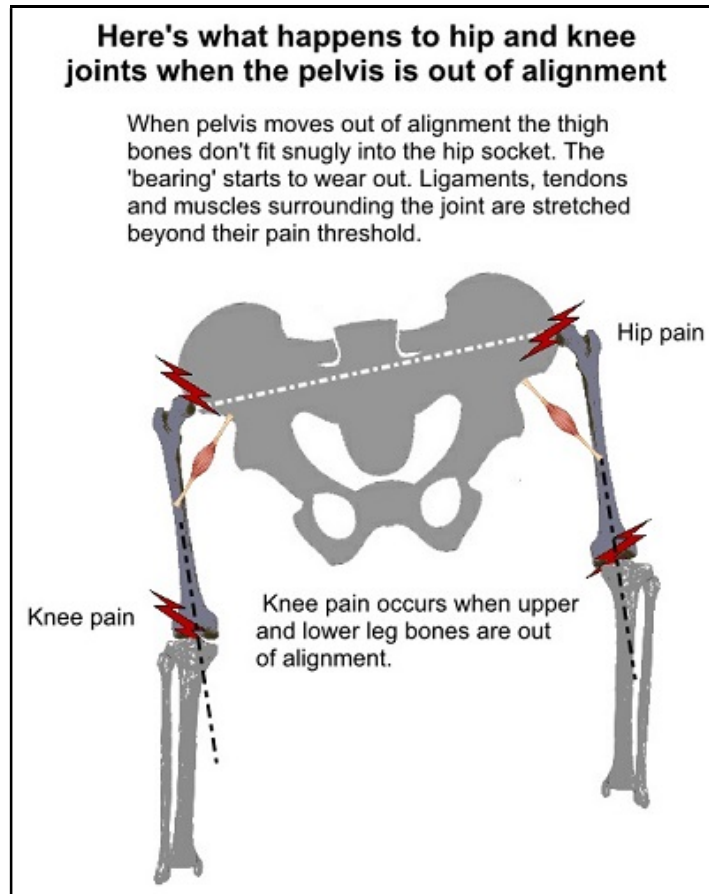
So, what we're looking to do is go



Here's what happens to a pelvis and spine that's out of alignment. Discs herniate. More pain! The treatment? Get the skeleton and the vertebrae back into better alignment and take pressure off the discs.



HIP AND KNEE PAIN

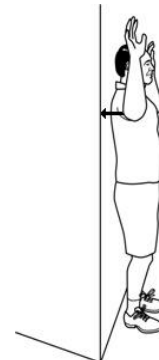


SHOULDER PAIN

The genesis of a lot of shoulder pain is tight hamstring and buttock muscles, the net effect of which is the 'C' shape curve of the spine - and shoulders out of alignment.



Good shoulder function. Wrists and fingers against the wall in the surrender position.



Poor shoulder function. Forearms well away from the wall.

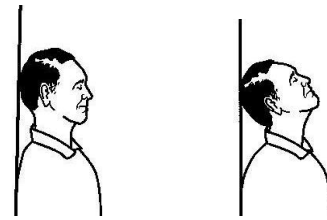
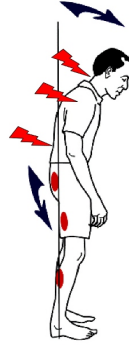
Most people with shoulder pain can't get their arms flat back against a wall in the surrender position. In fact, it's not uncommon to see people who have a gap of at least 20cms between their vertical lower arms and the wall.

The other cause is tight muscles around the shoulder girdle.

This means that if you want to improve your shoulder function you have to do the exercises to relieve lower back pain as well as strength and flexibility exercises at the shoulder level.

NECK PAIN

The genesis of a lot of neck pain is tight hamstring and buttock muscles the net effect of which is the 'C' shape curve of the spine - with shoulders and head out of alignment.



Head in good position

Head in poor position

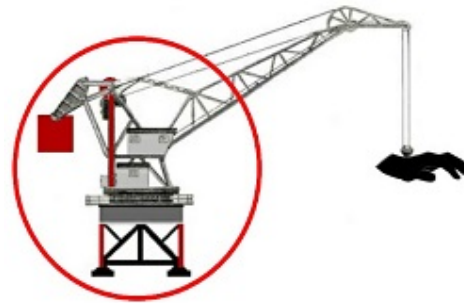
Men with sore necks usually have a head that's too far forward of where it should be. When they put their head back against a wall their eyes will be looking up at the ceiling. Their heads can be anywhere up to 10 cms too far forward when they are looking straight ahead. The weight of the head pulls ligaments, tendons and muscles beyond their pain threshold. Over time bones move out of alignment. Discs between the bones become herniated.

Women with sore necks tend to have weak muscles in the neck region. The muscles designed to support the head on the top of the shoulders aren't up to the job.

WRIST PAIN

Wrist pain comes at the end of a long chain of dysfunction. In particular, it is intimately related to the state of your trunk and shoulders.

This is because the wrist is at the end of a complex set of levers and unless the foundation is rock solid, and the whole system is strong and working properly you can finish up with upper back, shoulder and wrist dysfunction all in one go.



If the system is not kept in good working order, it's pretty much pot luck which part of the system will go first.

For some people it's the wrists. Most people with wrist pain have neither a general nor a specific strength and flexibility training program.

THE BEST ADVICE

The best advice your mother and primary school teacher ever gave you was to sit up straight, pelvis tilted slightly forward, abdomen relaxed, and hollow in lumbar spine.

The ideal sitting position is with the back of the chair pressing up in under your shoulder blades, with an 'S' shaped curve of your spinal column and the desk pressing into your abdomen.

Your spine should be in a graceful 'S' shape. When you change it to a 'C' shape you're in strife! However, you can't think yourself into sitting up straight. First you have to make sure the muscles designed to keep your pelvis and the bones above it in correct alignment (and in this case, sitting up straight) are doing their job.

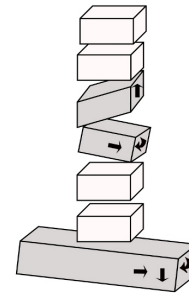


Secondly you have to get the chair and the desk set up properly and sit with your abdomen pressing in to the desk. That way 'you're locked in', sitting up straight.

The best advice I can give you is to keep yourself strong and flexible. If you don't, you're setting yourself up for joint and muscle pain.

A BODY OUT OF ALIGNMENT

A body in alignment stays in alignment unless acted upon by a force. The force that usually moves bones out of alignment is created by your own muscles. That's the bad news. The good news is that you can use the force created by your own muscles to get your bones back into better alignment.



Muscles attached to the pelvis cause it to tilt and rotate; bones above it move out of alignment.

THE BEST THERAPY

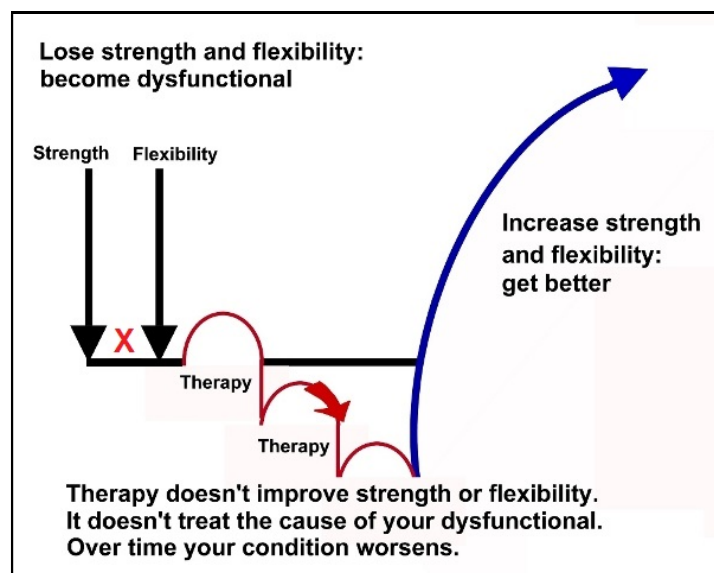
Passive manipulative therapy doesn't take the place of what you can do for yourself. It doesn't make your muscles stronger. It may make them looser. It may speed up the rehab process. So even though you may feel better after a rub down or a crunch, the cause of your problem – a lack of strength and flexibility isn't being addressed. You have to do that yourself.

The best therapy is a regular strength and flexibility training program: the sooner you start, the sooner you'll be on the road to recovery. Again, any manipulative therapy you have may help speed up the rehab process.

SYMPTOM MASKING HEALTH CARE versus RESTORATIVE HEALTH CARE

If you're not getting stronger, you're getting weaker. If you're not getting looser you're getting tighter. Sooner or later there's every chance you'll come down with some sort of joint and muscle pain. You'll rush off to someone wearing a white coat for some manipulative therapy. You may feel better – for a while – but you have to keep going back for more treatment. More treatment equals more money. Meanwhile you're not getting stronger or looser.

If you embark on a regular and systematic strength and flexibility program there's a fair chance that for 80% of people there's an 80% chance that they can get themselves back to 80-% of 'good shape' in around 80 days.



12. Manual handling

There are two reasons why organisations need to have a manual handling policy. Firstly, as a duty of care and concern. No employer wants people to injure themselves lifting or put up with joint and muscles pain as if it's just another aspect of getting older. Secondly it behoves all staff to keep their skeletons in good alignment and their bodies strong so that they don't injure themselves and thereby avoid making claims on the employer's insurance.

MANUAL HANDLING PRINCIPLES

1. Bring the load close into your body.

If you're lifting something off a bench, slide it towards you, get your hands underneath it, bend your legs and then lift it.

2. Step and Swivel

You've lifted the object, now you have to put it somewhere.

Once again, use the big muscles of your body to do the work – i.e., your legs.

Rather than swivelling at the hips, turn the whole of your body starting with your feet.








3. Lifting technique

You'll see a lot of poor examples of 'safe lifting' on office corridor notice boards and on the internet, showing someone lifting a box off the floor with their heels off the ground, trying to lift it using one leg, with their centre of gravity in such a position that as soon as they lift the object they're going to fall over.

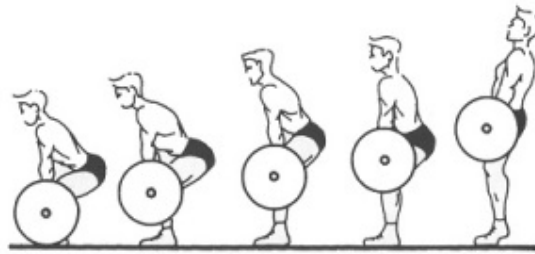
The first three shaded illustrations #1 - 3 are highly unstable platforms from which to lift a heavy object. They're not safe. You won't be able to lift heavy weights because you can't properly engage the leg extensor muscles, the body's strongest muscles, quadriceps and buttock. You could fall over. No-one ever successfully and safely completed a heavy lift using these techniques.

You can't perform a safe lift standing on your toes and with legs bent more than around 90 degrees at the knee joint. The flaw in illustration #4 is obvious: the load is being borne by the back muscles, not the large leg muscles.

Poor lifting position				Good lifting position
1. 	2. 	3. 	4. 	5. 
Unstable, left foot not anchored to support lift. You're not in a position to engage the leg extension muscles.	There's no strength in this lift. Left foot not anchored and body unstable and about to topple backwards.	You can't lift safely balancing on your toes. It's not a stable lifting platform. You can't engage the leg extension muscles.	Leg extension muscles already extended. All that's left to support the lift are the back and abdominal muscles.	Feet flat, stable foundation, leg extension muscles, primed to do the heavy lifting.

#5 illustrates the position where the big muscles of your legs are ready to do the heavy lifting. Spread your legs so they are shoulder width apart. Make sure your feet are flat. In this position it's only after the legs are extended and the load having an upward momentum that the back and abdominals muscles are engaged to complete the lift. Before you start the lift, prop something under the box so you can get your hands underneath it.

Here's an example of good lifting form.



If you're going to take a lead on how to lift, take it from the weightlifting experts. Legs bent, legs doing the initial heavy lifting and back not coming into play until the weight already has momentum.

And don't forget it's not all about lifting up! There's a lot of lifting down as well. The same techniques apply. Use the big muscles of the legs to do the heavy work.

4. Stay strong

Never under-estimate the need for strong muscles right throughout your body. To protect yourself from lifting incidents you need to keep your musculature strong. Not many people can do that without having a regular and systematic strength training program.

The fact is, it's a lack of strength that has the most significant bearing on manual handling incidents. Some people aren't strong enough to pick up a leaf off the ground or clean their desk without herniating a disc!

You can get serious and train at the gym three times a week or you can make sure you can do 30 situps, 30 squats and 30 pressups.

You can get serious and train at the gym three times a week or you can make sure you can do 30 situps, 30 squats and 30 pressups – and keep on doing it throughout your working life.

And never under-estimate the need for strong abdominal muscles. They take more of the load than the back muscles.

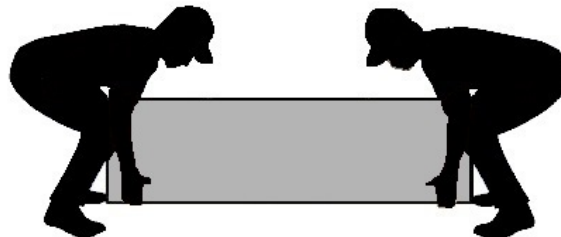


The standard weight for airline luggage is 23 Kg. Qantas don't have a claim form! You should be able to lift up to 20Kg at work without doing yourself an injury.

5. Don't attempt to lift something you think is too heavy.

Get help.

And then when you do the lifting, make sure feet are flat and legs bent at about 90 degrees.



6. Use a machine.



The things fit and healthy people ought to be able to lift and do without causing joint and muscle pain.

Sitting down

The activities below are the ordinary, everyday activities people expect to be able to do at home, in their leisure time or at work without ending up in pain.

Think about it: how can you injure yourself sitting down at a desk or behind a steering wheel – except by your own hand?



Standing up and working while bending down



Bending over



Lifting a bag



Carrying a suitcase



Cleaning a desk



Carrying a ream of paper



Lifting and swivelling



Putting books on a shelf



Changing a tyre



Laying bricks



Shearing sheep



Pushing a wheelbarrow



Shovelling



Vacuuming



Polishing



Scrubbing



Mopping



Cleaning windows and walls



Using a whipper snipper



Pushing a hand trolley



Getting down out of a truck

No claim form at home ...



...or at the supermarket.



You can injure yourself playing sport, but you take your chances. Not many people sue their sports club for a twinge. A lot of sports people take out their own accident insurance policy.



AND THERE'S MORE

It makes a mockery of anyone who ever went to a gym and embarked on a strength training program that someone should receive even as much compensation as a brass razoo for lifting a 10Kg box off the desk at work.



A FINAL WORD

Sensible shoes

Every organisation needs a sensible work shoe and work boot policy. High heels are not work shoes. They are neither safe, healthy nor sensible. Imagine wearing high heels when the building has to be evacuated?



If steel capped boots need to be worn on a worksite, then flat soled, sensible shoes with heels that are no higher than 2cms need to be mandated for general staff.

Holding on to rails

In many organisations it's mandatory that employees 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 out colleagues who fail to hold onto rails.

Sprained ankles

What are you going to do about a sprained ankle?

First up, spraining an ankle is just another incident that's part and parcel of life. It can happen to anyone, anywhere, at any time.

Give it the best first aid possible; that includes instant icing, strapping, elevating and not bearing weight on it.

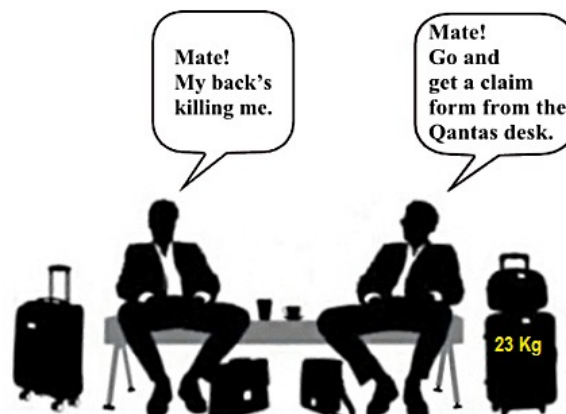


The case for all staff doing a first aid course is compelling. Most of the aid will be the aid they give to themselves.

If you sprain your ankle and it's iced and strapped properly, you can keep it elevated and you have a sit down job, chances are you'll be able to carry on, or at least be back at work the next day.

And chances are it won't require medical attention, but if it does, get work to reimburse you for any costs that you incur, including 'proper' bandages and maybe a spray can of coolant. That will save your organisation a fortune in workers compensation payments.

Whilst it's doubtful if an X-Ray will be needed (all that's happened is ligaments, tendons and muscles have been torn) if it is, once again ask work to reimburse you for the cost.



13. Fundamentals of a strength training program

You're setting yourself up for musculo-skeletal dysfunction if you don't have a regular and systematic strength training program. As muscles become weaker, their ability to hold the body in its correct alignment is greatly diminished.

The ability to do everyday tasks – lifting, pushing, pulling, carrying, propelling your own weight ... becomes diminished. You're unable to do the things that strong people can do.

You can imagine, for instance the cause of your neck problem. The muscles of your neck and shoulders are not strong enough to hold you head on top of your shoulders. The head tilts forward and starts straining the muscles, tendons and ligaments; it hurts. Sooner or later bones are moved out of alignment. Then it really hurts. Then discs start protruding. A quick rub down, an anti-inflammatory and a muscle relaxant do little to fix the problem.

Unless trunk muscles – front, back and sides - are strong you're setting yourself up for back pain.

STRENGTH

Strength is the ability of a muscle to exert a force. Lack of strength is one of the main contributors to musculo-skeletal injury. 40% of people are not strong enough to push a pen or tap a keyboard without getting a crook back, stiff neck, frozen shoulders or RSI.

Muscle strength and tone can be enhanced by working against a resistance in a regular and systematic strength training program.

Include the major muscle groups in your workouts: legs, trunk, arms, neck and shoulders. I recommend a strength training program that includes the following exercises, sets and repetitions.

STRENGTH AND MUSCLE BULK

A strength training program with at least three sets, with an ever-increasing weight and a declining number of repetitions, will provide you with a balanced approach to improving muscle strength (heavier weights, low repetitions) and muscle bulk, (lower weights, high repetitions).

Maintaining muscle bulk is essential if you are to keep your metabolic rate up. If your metabolic rate drops and you keep eating the same amount of food, you'll start putting on fat. Therefore an essential aspect of a fat loss program is to improve muscle bulk so you burn off more calories, even without exercising.

FREQUENCY

Three times a week is ideal.

CORE STRENGTH

My definition of core strength is the strength of any muscle attached to your pelvis and your spine.

*Modern medicine is a wonderful thing but there are two problems:
people expect too much of it and too little of themselves.*
Don Ardell

14. The five great strength exercises to do at home

1. SITUPS

You can do your situps in a variety of ways.

Gradually build up the number you can do on the trot. 20 feet held situps is good 30 is better and 40 is best.



2. PRESSUPS

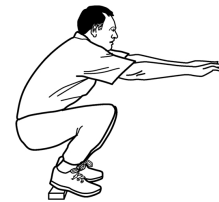
King and Queen of shoulder and upper back exercises. Considering that pressups are 'plank-in-motion' they're also a good trunk strengthening exercise.

Gradually build up the number you can do on the trot. 20 is good 30 is better and 40 is best.



3. SQUAT

This is a great exercise for building up the thigh muscles. From a standing position, squat down with your backside as close to your heels as it will go, and stand up straight. You may use a heel raise (as illustrated if you need to.) Build up to 20 repetitions at a time. If this is too hard an assignment, hang onto a rail or come down only part of the way. You could put an upturned bucket or pot plant to squat down to.



4. SUPERMAN BACK ARCHES

Take the feet and knees off the ground first.

Build up to a minute's worth of gentle ups and downs.



5. ARM HANG – hanging from a bar until exhaustion.

Hang with palms facing away from you.

(Warning) A large proportion of people are unable to support their own weight at all, so be careful and be ready to land safely on your feet if your hands fail to support you.

This is a classic test of hand strength. There's no need of a grip strength gadget, just you knowing how long you can support your own weight with your hands.

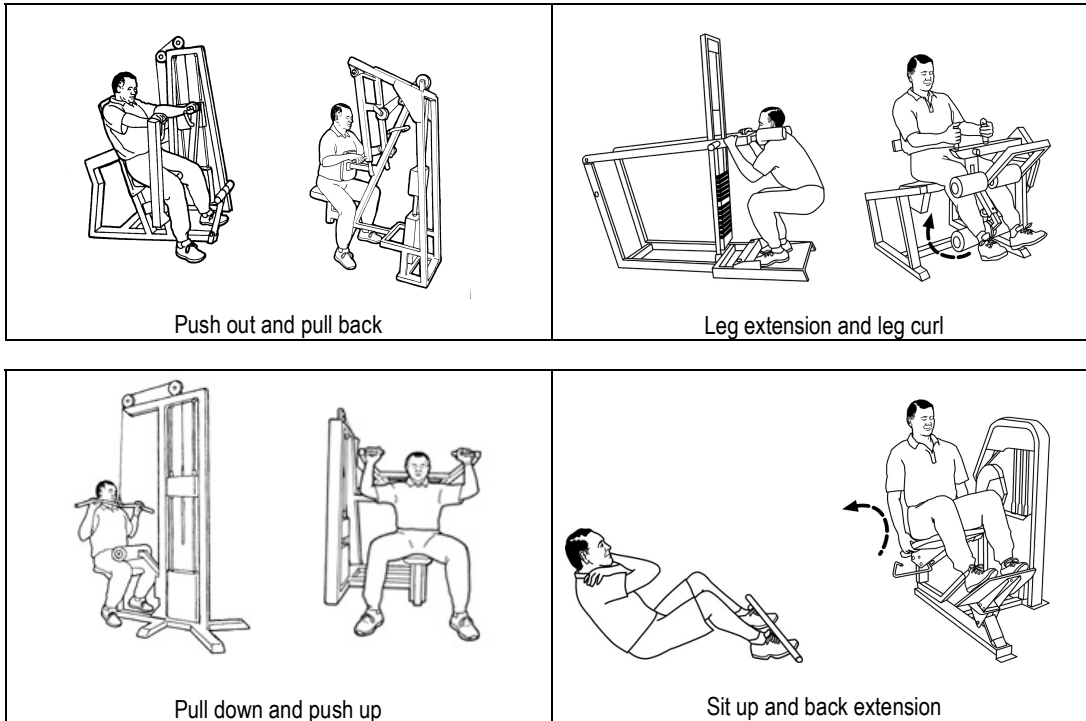


You may have to build up the strength exercises gradually by doing a minute's worth of exercise in small doses. For instance, spacing 40 sit-ups out over five sets of 12, 10, 8, 6 and 4 repetitions will add up to a good minute's worth of activity. The back arches can also be varied, lifting the chest off the floor with hands by the sides, or on the lumbar spine, or lifting one arm together with the opposite leg, or both arms and legs at the same time if you're up to it.

15. Strength training program in the gym

Based on supersets, where you do two exercises that work opposing muscles in the sequence of repetitions, 12, 10, 8, 6 adding weight to each set. Using supersets, you don't have to rest between sets.

The routine should take about 40 minutes. As the weeks and months go by you will be able to use heavier weights. Three times a week is ideal. As you become stronger you'll find your musculo-skeletal system feels better. I recommend you work with a partner alternating between the machines.



To change one's life:
Start immediately.
William James

16. Fundamentals of a flexibility (muscle loosening) training program

Flexibility refers to the ability to maintain a wide range of movement about the joints of the body. When they are not stretched regularly, muscles and tendons become shorter and the range of movement around the joints decreases.

When it's all boiled down, we're really talking about creating the conditions for muscles to loosen off. It normally takes about a minute for a muscle to get the message that it's safe to loosen off so do your stretches for at least that long. With every breath you breathe out just feel the muscle relaxing off.

Crook backs go well with tight back, buttock, hamstring, hip flexor and calf muscles. Crook necks and shoulders also benefit from stretches that are focused on parts of the body lower down - as per our belief that the site of the pain is probably not the site of the cause of the pain. Loosen and strengthen muscles attached to the pelvis so that you stand in a better posture and you may well find your neck and shoulders start to feel better.

By far the greater proportion of people who complete our musculo-skeletal risk factor profile do not have a regular and systematic flexibility or strength program. Is it any wonder then that 30% of adults have some form of musculo-skeletal dysfunction?

ONE MINUTE FLEXIBILITY TRAINING PROGRAM

We recommend the one minute flexibility training program for people with crook backs and necks. What this means is that you need to do each exercise for at least a minute to get any benefit from it. If you can stretch for longer, so much the better. Many of the exercises will enhance joint function if you stretch for 2 or three minutes.

I often do my stretches while I'm watching television. That way I can take my time and spend as long as I like doing them.

I recommend isometric stretching as an effective way of loosening tight muscles and have included some isometric neck stretches in our list.

If you regularly do the exercises listed on the next few pages, there is a good chance that your back, neck and shoulders will feel better. A minute spent on each exercise can make a big difference.









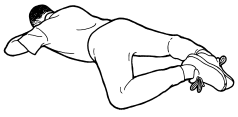

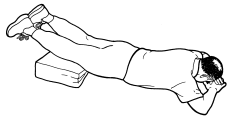

It's wrong to treat back pain as a local problem.

On the contrary, it's a system problem; your skeleton is out of alignment.



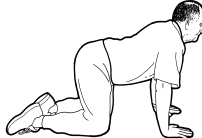



Fix the system, (get the skeleton into better alignment) and your back will look after itself.

16. Flexibility exercises







If you're in acute back pain, do the first three (shaded) exercises for the time suggested. Incorporate hip crossover into your regular maintenance program for a minute each side. For (shaded) hip crossover 20 minutes is good, 30 better and 40 best.


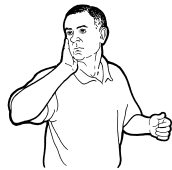
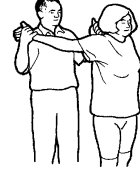
<p>Static back 20 minutes</p>  <p>This is the most comfortable position for anyone with a crook back. Lie in this position for 20 minutes or more to settle down muscles attached to pelvis and spine.</p>	<p>Supine groin stretch – 20 minutes each side</p>  <p>Laying on back, one leg on bolster the other on the floor. Relax in this position for 20 minutes each side.</p>	<p>Hip crossover – at least 20 minutes, 5 minutes a side over and over.</p>  <p>Start with the heel of the right foot up toward the top of the left knee. Push the right knee way from you. Then drop the right foot and left knee onto the floor on the left side of your body.</p>
<p>Hip stretch</p>  <p>Tuck the right foot behind left knee. Take right knee over close to the floor on the right side of your body. Repeat on left side.</p>	<p>Super hip and thigh stretch</p>  <p>Start with feet together and extended. Swing the right leg out over the left and grab hold of the right foot with your left hand. Keep your right shoulder on the floor. If you can't grab your foot, grab your sock or the bottom of your trouser. Repeat on other side.</p>	<p>Heels over head</p>  <p>You used to be able to do this when you were a kid. Start doing it again. 30 seconds is enough. With every breath you breathe out, creep back a little further. When you can hold your toes with the back of your hands on the floor, report back!</p>
<p>Sit up straight buttock stretch</p>  <p>Sit with both legs straight out in front of you. Fold the left leg under the right and then the right over the left. Prop yourself up on your knuckles, and lean forward for 20 deep breaths.</p>	<p>Hamstring</p>  <p>With legs outstretched hold on to lower leg as far down as is comfortable. Bend knees slightly and place hands further down, then straighten legs. Do for times, each time extending the stretch.</p>	<p>Reverse frog - knees out</p>  <p>Knees out, soles of feet together, chin on chest and front of pelvis on the floor. Let your feet hang down.</p>
<p>Cobra</p>  <p>Keep pelvis on the floor. Stretch upwards. Breathe out and feel lumbar spine loosening off.</p>	<p>Alternate dog and cat stretch</p> <div data-bbox="625 1522 1015 1795"> <p>Reverse cobra</p>  <p>Place a cushion underneath your knees. Do this exercise for as long as you like.</p> </div> <div data-bbox="1015 1522 1380 1795"> <p>Buttock stretch</p>  <p>Start on hands and knees. Place right leg over the left, onto the knee and the laces and then slide it back and prop on your elbows. Repeat other side.</p> </div>	

Alternate cat and dog stretch

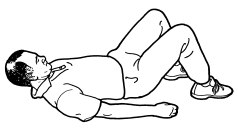


<p>Hip flexor stretch</p>  <p>On one knee with the other foot well forward, pelvis arched and back straight. Stretch forward to loosen groin muscles.</p>	<p>Cat stretch</p>  <p>With hands close together under the chest, tuck the tummy in, push the pelvis forward and get a high arch in thoracic spine. Breathe out. Alternate with dog stretch.</p>	<p>Dog stretch</p>  <p>With hands close together under your chest, poke your bottom out and get a hollow in your lumbar spine. Breathe in. Alternate with cat stretch.</p>
<p>Quadriceps stretch</p>  <p>Place foot on With every breath you breathe out, lean back further. This is a must do for knee pain.</p>	<p>Calf stretch</p>  <p>Stand for 3 minutes with back to wall on sloping board.</p>	<p>Pillow squeeze</p>  <p>Sit up straight, hollow in lumbar spine and shoulders pinched. Squeeze pillow 15 times.</p>

NECK, SHOULDERS AND ARMS - strength and flexibility exercises

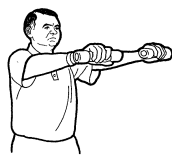


<p>Wall clock</p>  <p>Stand with feet pigeon-toed and touching the wall with thumbs pointing out. Spend a minute each with hands at 12 o'clock, 10 o'clock and parallel to the floor.</p>	<p>Doorway squeeze</p>  <p>Stand with one foot just inside a doorway and push forward to stretch the muscles of the upper back. Do 20 repetitions.</p>	<p>Arm circles</p>  <p>With palms down and thumbs pointing forward, circle arms forward 20 times. Turn palms up, point thumbs back and circle backwards 20 times.</p>
<p>Shoulder blade pinch</p>  <p>Squeeze elbows back to pinch shoulder blades. 20 times.</p>	<p>Elbow squeeze</p>  <p>With knuckles on temples, swing elbows back as far as you can and then to touch at the front. 20 times.</p>	<p>Pull your head in</p>  <p>Pull your head in underneath your armpit and stretch the muscles at the back of your neck. Do this for a minute each side.</p>

<p>Neck isometric strength/stretch</p>  <p>Push the head against the right hand for 7 seconds, relax and let head flop toward the shoulder. Repeat two more times then do the same thing to the left.</p>	<p>Neck isometric strength/stretch</p>  <p>Looking out over your right shoulder, push the head against the hand for 7 seconds, relax and turn head further behind. Repeat twice then do the left side.</p>	<p>Shoulder stretch</p>  <p>With a partner, one person pulls the arms back to stretch the muscles at the front of the shoulder.</p>
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NECK STRENGTHENERS AND MOBILIZERS

<p>Neckups</p>  <p>Lift head up toward the chest. Don't let head touch the ground until you've done 10 repetitions.</p>	<p>Eye to shoulder</p>  <p>Lift head up a centimetre and then turn toward right shoulder and then left. 5 times each side.</p>	<p>Ear to shoulder</p>  <p>Lift head up a centimetre. Take right ear toward right shoulder and then left ear to the left shoulder. 5 times each side.</p>
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SHOULDER STRENGTH ROUTINE - WITH DUMBELLS - build up to 4 'laps' of the routine

<p>Arms to the front</p>  <p>4 repetitions</p>	<p>Arms to the side</p>  <p>4 repetitions</p>	<p>Arms above the head</p>  <p>8 repetitions</p>
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FOREARM AND WRIST STRENGTHENER

<p>With spring grip</p>  <p>Squeeze the spring in and out 20 times each hand.</p>	<p>With dumbbell</p>  <p>Lift the weight 20 times with palm up, to the side and down. As you get stronger increase the weight.</p>
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18. Gunnado

What I'm gunnado to keep my musculo-skeletal system in exceptionally good condition.

NOTES

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

Only on the rarest of occasions is joint and muscle pain caused by a lack of rubbing, crunching, heating, cooling, vibrating, shock-waving, electrical nerve stimulation, anti-inflammatory crèmes and gels, hanging-up-side-down, taping, strapping, doping or surgery.



Our recommendation is that organisations adopt the following mandatory approach to measuring, managing, monitoring and minimizing the risk of personally-generated body system dysfunctions being dressed up as work-related injuries. Tick the items on the checklist which you have completed at some stage of your working life with your current employer.

1. Safety induction and policy discussion, including simple safety procedures like hanging on to rails when going up or down stairs and wearing appropriate footwear ...
2. First aid course – so people know what to do when they sprain and ankle, strain a muscle, herniate a disc ...
3. Manual handling seminar
4. Workstation assessment and set-up
5. Musculo-skeletal health seminar
6. Stress Management seminar
7. Information – pamphlets, posters, books, audio files and videos
8. Pre-employment and then yearly specific joint assessment to determine pre-existing conditions
9. Pre-employment and then yearly ten-point musculo-skeletal risk screen
10. Musculo-skeletal Clinical Diagnostic Assessment for people at risk and people submitting a claim
11. Diagnostic imaging for people with pre-existing conditions
12. Diagnostic imaging when people submit any sort of claim for joint and muscle pain
14. Pro-Active Rehab program for musculo-skeletal and stress claims for people at risk and people on workers compensation
15. Daily strength and flexibility exercise program for all staff.

All the ergonomic furniture in the world won't protect you from musculo-skeletal dysfunction unless it's accompanied by a regular and systematic strength and flexibility program for the muscles that are designed to keep your skeleton in correct alignment.