Sitting Posture

You have bad posture.
MAT SITTING

Sitting On The Mat Looks Like This:

- Legs Crossed or Together
- Mouth Quiet
- Eyes Looking at the Front
- Legs Comfortably Placed
- Hands on Lap
- Ears Listening
MAT SITTING POSITIONS:

• CROSS-LEGGED:
  – The most common and comfortable position especially long term
  – Gives the body support and balance
  – Sit with a straightened back

• SIDE-SITTING:
  – Ok short term
  – Change sides frequently to avoid lower back stress

• LEGS EXTENDED
  – Ok but does not give as much balance as cross-legged
  – Sit with straighten back

• NEVER ‘W’ SIT
If struggling to sit cross legged

• Check hamstring length – if tight hamstrings, get a posterior pelvic tilt and loose lumbar lordosis

• Research shows that BOYS 8-11 yrs old especially can get tight hamstrings as they go through their growth spurt.

• Hamstring stretches
W sitting
WHY SOME CHILDREN ‘W’ SIT

• Position of choice when transitioning from crawling to sitting
• Adopted because of the wide base—gives child stability
• Requires less effort to stay upright
• Children with low muscle tone and/or hyper-mobile joints usually adopt this position
PROBLEMS CAUSED BY ‘W’ SITTING

• May develop a posture called ‘sway back’ (spine curves too far inwards)
• Positions the thighs and knees to turn inwards
• Tendency to walk and stand with feet turned inwards
• Can cause inverted arches, pigeon toeing and flat feet
• Have tight hamstrings and lower back muscles
• Affects balance and coordination
• Decreases rotation of trunk and crossing the mid-line (essential for development of balance, hand dominance and motor skills)
FUN EXERCISES/ACTIVITIES

• Crawling e.g. through tunnels, under and over, lifting arm and leg on same side
• Climbing – strengthens and tones legs, stimulates development of foot arches
• Exercise the hip joints – row row row your boat, swaying hips forward and backwards
• Rolling on floor with legs straight
• Sitting cross-legged- gravity helps to stretch muscles
• Mid-line exercises- helps development of balance, motor skills, following books with eyes across midline
• Sit on a low stool or cushion to prevent W sitting
IDEAL SITTING POSTURE

• Pelvis upright and neutral (so muscles activate and don’t hang off ligaments)
• Femurs horizontal
• Hips, knees and ankles at 90 degrees
• Spine straight, natural curves of spine
• Shoulders in a neutral position when arms on desk
I'm going to have good posture! 5 minutes later...
All About the PELVIS

If you can achieve a neutral pelvis then everything both above and below should line up to help achieve this IDEAL sitting posture.
WAYS to encourage ideal sitting posture

• Children sit back to back – encourage shoulder to shoulder and back to back, sitting up tall as if been pulled up to the roof (reach for the stars)

• Sitting cross legged – supports lumbar lordosis, helps hamstring length

• YOGA – youtube
OTHER REASONS FOR GOOD SITTING POSTURE IN CHILDREN

• Encourages a good pencil grip leading to efficient writing
• Strengthens abdominal muscles leading to further improved posture
• Increases lung capacity – increasing concentration and energy
• Increases loudness and projection of voice
• One study showed that of 100 primary school children studied-  
  – 11% children sat with good posture  
  – 89% could adopt proper posture when reminded by teachers

• This study also showed children -  
  – seem to think it inappropriate to sit in a proper posture in a chair  
  – have already adopted habits of leaning against the chair back  
  – commonly sit with rounded backs  
  – sit on a chair with knees bent up

• Shows importance of reminding children to maintain good posture and educating them to why they should
COMMON EFFECTS OF CONTINUAL BAD SITTING POSTURE

• **Sore muscles** is the most common – as you slouch the muscles have to work harder to keep spine stabilized.

• **Nerve Constriction** is also common causing painful pinched nerves in back and neck.

• **Breathing** - slouching causes the lungs to become constricted allowing for less oxygen to be absorbed - can also reduce focus and concentration.
OTHER MAJOR EFFECTS

• **Spinal Curvature** is one of the most serious issues that can occur – as the spinal position changes the body is less able to absorb shock and keep balance

• **Subluxations** occur once the spinal curve is altered and affects the overall integrity of the spinal column and causes stress

• **Blood Vessel Constriction** reduces blood supply to spine and muscle cells, raising chances of clots and deep vein thrombosis

• **Joint Stress (important in children)** from misaligned spine causing degradation of supportive connective tissue leading to back ache and pain and leading to osteoarthritis in adulthood

• **Growth Issues (important in children)** due to compression of bones in spine causing a loss of height and spinal strength
SOME SIMPLE STEPS TO IMPROVE SITTING POSTURE

• Adjustable chairs/ desks to position at the correct height
• Chairs helping to support natural curvature of the spine eg, supportive cushions, ergonomic chairs
• Education of correct sitting posture
• Reminders of correct sitting posture (teacher/parent role)
• Build up core strength (activities/exercises)
THOSE CHILDREN WHO LEAN/ SLOUCH ON DESKS WHEN SITTING

- May have poor trunk control / weak core and trunk muscles:
- We want to boost trunk muscles by
  - Hokki stools
  - Brain breaks – movement songs
  - Jump 10x and sit down before writing etc to wake the trunk muscle up and activate them
  - Little bursts to fire their core and stabilising muscles
Identifying weak core strength

- Hook arms over back of chair
- Tendency to lie over desk
- Lie down during floor work instead of sitting
- Slouch against wall or tables instead of standing upright
- Loose balance easily
- Poor gross motor or general clumsiness
- Avoid climbing on play equipment
Adapting everyday classroom activities

- Writing in prone
- Writing on vertical surfaces
- Desk push offs
- Wall/ desk push ups
- Animal walks between transitions
- Leg raises
- Pushing hands together (stretch)
CORE STRENGTH EXERCISES FOR CHILDREN

• Bridging
Superman/ Superwoman
Plank
Wheelbarrow Walking
Other Ideas:

- Swimming
- Negotiating an Obstacle course
- Climbing up a slide instead of sliding down
- Swinging
- Crab Walking
- Playing Row Row Row Your Boat
- Playing tug of war
Ipad and Laptops

Sufficient indirect lighting to prevent eyestrain and glare

Monitor at eye level to prevent hunch over

Document in front of operator

Keyboard at elbow height for arms and shoulder alignment

Padding in front of keyboard for wrist alignment and relaxation

Adjustable seatback support for lower back

Chair adjusted, thighs parallel to floor

Footrest if necessary for comfort and stability
Technology vs Hands On

• Technology use while seated eg computers, ipads etc should be kept to short bursts.
• Children's seating is static when on ipads and tends to lead, as a result, to a very slumped posture without even realising.
• When children are writing or drawing etc they are reaching for things and moving there arms therefore is a dynamic seated position encouraging better seated posture.
Posture-related injuries from computer use

- Back and neck pain
- Headaches
- Shoulder and arm pain
- Wrist and hand pain

Such muscle and joint problems can be caused or made worse by

- poor workstation (desk) design,
- poor chair design
- bad posture
- sitting for long periods of time.
Preventing computer-related muscle and joint injuries

Tips to avoid muscle and joint problems include:

• Sit at an adjustable desk specially designed for use with computers.
• Have the computer monitor (screen) either at eye level or slightly lower.
• Have your keyboard at a height that lets your elbows rest comfortably at your sides. Your forearms should be roughly parallel with the floor and level with the keyboard.
• Adjust your chair so that your feet rest flat on the floor, or use a footstool.
• Use an ergonomic chair, specially designed to help your spine hold its natural curve while sitting.
• Use an ergonomic keyboard so that your hands and wrists are in a more natural position.
• Take frequent short breaks or do stretching exercises at desk.
Adjust your chair so that your feet rest flat on the floor, or use a footstool.
Use an ergonomic chair, specially designed to help your spine hold its natural curve while sitting.
Have your keyboard at a height that lets your elbows rest comfortably at your sides. Your forearms should be roughly parallel with the floor and level with the keyboard.
Evidence based guidelines for wise e-game use By Professor Leon Straker, School of Physiotherapy and Exercise Science, Curtin University.

Found-

• Awkward and sustained postures adopted during e-game play increase the risk of developing musculoskeletal injury

• E-games that require sustained repetitive activity have been associated with musculoskeletal injury

• Playing e-games that require high acceleration and high-force movements may increase the risk of injury, especially in those unaccustomed to such movements
Ipads

• Tips for Safe Tablet Use
• 1. It’s good to be restless – this means have lots of breaks and move around
• 2. Don’t use it on your lap- neck placed in unnatural position
• 3. Use a case to prop up the laptop- a case with a built in stand to allow you to position the screen at multiple viewing angles, so that you can adjust it as needed. Studies suggest when propped on your lap should ideally be at 45 degrees; when set on a table, it should be more like 60 degrees (from flat).
• 4. Attach a keyboard – typing on ipad places wrist at unnatural angle
Ipads

• There is also some research into ipad use especially in early childhood recommending to encourage good sitting posture:
  – If sitting on the floor, legs extended or sit cross legged with a pillow on lap so the ipad is higher up and if struggling to get an s shaped spine – sit on a wedge cushion.
  – If sitting at a desk ensure the tablet is on a stand so the screen is at an upright angle.
INTERESTING RESEARCH
ACTIVE SITTING:

• Researcher Leon Straker and Sacred Heart Primary School (2014) is researching whether ‘active sitting’ can reduce childhood obesity.

• Active sitting involves sitting on fit balls, ‘wobbly chairs’ (hokki stools) etc where the muscles are constantly working.

• Helps promote:
  – Movement and using more energy
  – May help reduce obesity due to inactivity
  – Strengthen core muscles
  – Increase balance and coordination

• This researcher is also doing a lot of studies involving children, their posture and the use of video game - study ongoing.
BACKPACKS

- Professor Vivienne Travlos- Senior Lecturer in Paediatric physiotherapy at Notre Dame Uni
- Young children should be encouraged to carry a properly fitted and of appropriate weight backpack from kindy onwards to encourage development of spinal strength and core strength. Also to walk to school where able as this increases the time for core activation and spinal strength to be worked on while carrying backpacks.
- A study of both walking to school and carrying their own backpack showed a decrease in lower back pain when these children become adolescent (Raine Study).