



SUPER
WELLNESS



Support Your Musculoskeletal System

Diet & lifestyle pillars to alleviate
sedentary living



Today



Quick quiz

Common MSK problems

Brief intro to the Musculoskeletal System

The 5 Key Diet & Lifestyle Pillars

Exercises to support your MSK system



Quick Quiz

1. How many types of Musculoskeletal conditions are there?

a) Over 25 b) Over 50 c) Over 150

2. Bone is twice as strong as steel?

True or False

3. What is the rate of muscle loss every 10 years after age 35?

a) 2% b) 5% c) 10%

4. Other than calcium name a vitamin or mineral that is essential for bone health?



Common MSK problems

Do you suffer from any of these?

Bone fragility (osteopenia or osteoporosis)

Arthritis (osteoarthritis, gout, rheumatoid, psoriatic and more)

Back / neck pain

RSI (Repetitive Strain Injury)

General aches and pains, muscle fatigue



Osteopenia & Osteoporosis



- **Osteopenia** is the stage before osteoporosis
- Up to one in three women and one in five men over the age of fifty will experience an osteoporotic fracture in their lifetime
- Bone mass peaks by age **30**
- The higher your bone mass the less like you are to develop osteoporosis



Osteopenia & Osteoporosis Risk Factors

Low calcium

Physical activity

Tobacco and alcohol use

Sex

Size

Age

Race and family history

Hormone levels

Eating disorders

Certain medications



Lower Back Pain - Prevalence



- Lower back pain is a common global problem
- Affects 7.5% of global population
- Leading cause of global disability
- Usually recover within 6 weeks
- But recurrence is common
- Major cause of workplace absence



Lower Back Pain – Risk factors

- **Physically demanding job** – lifting, bending etc.
- **Lifestyle** – smoking, obesity & low levels of physical activity
- **Age** – more common as we age, starting around age 30-40





Lower Back Pain - Treatments



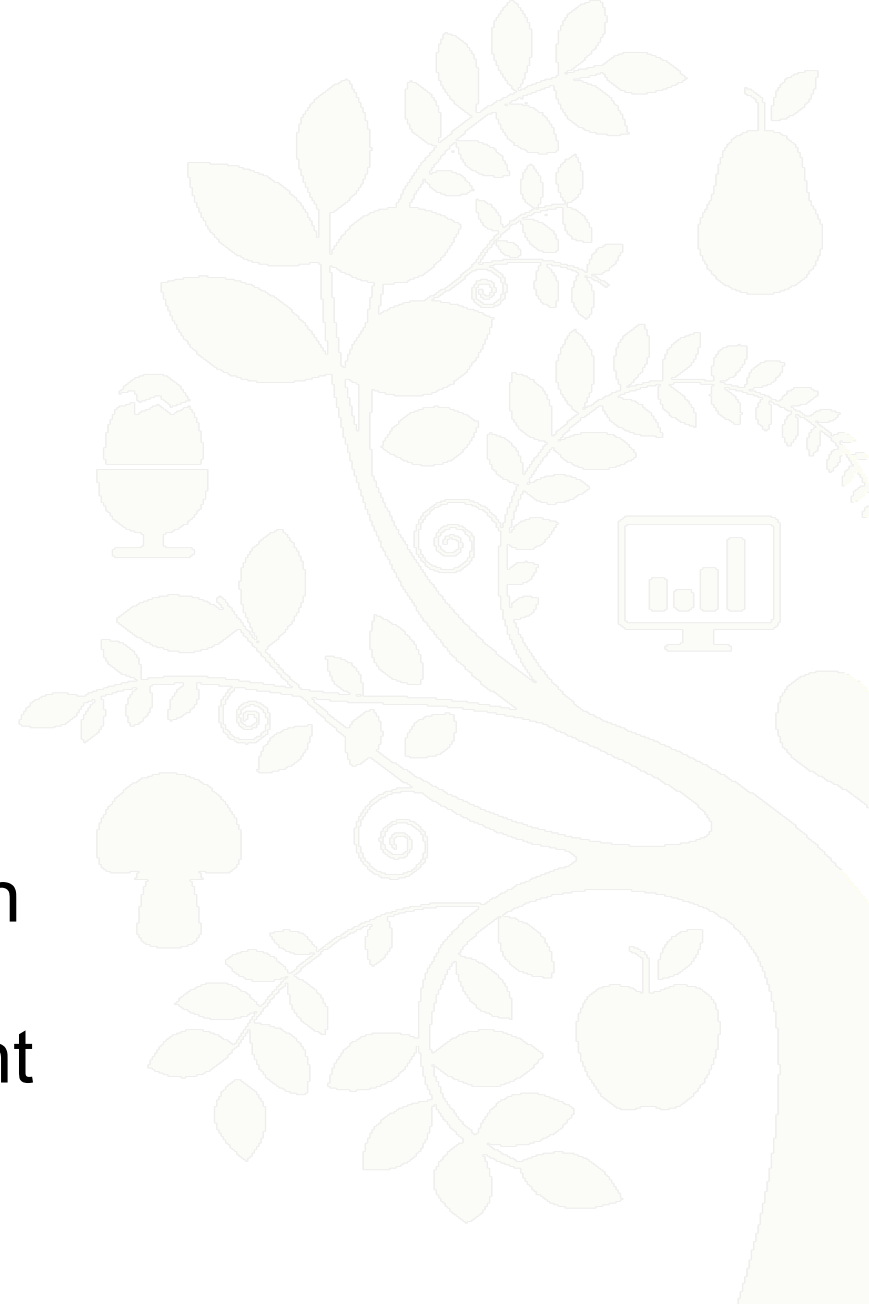
- Bed rest is now **not recommended**
- Once cleared of serious causes guidelines suggest **staying active**
- **Psychological** support for pain
- **Exercise** to build strength, support coordination & build deep core muscles



Musculoskeletal system



- Support
- Structure
- Protection
- Movement





5 Key Diet & Lifestyle Pillars for Musculoskeletal Support

1. Nutrients to support bone, muscle & joint health
2. Anti-inflammatory Diet
3. Posture
4. Movement
5. Address the Stress





1. Supportive nutrients

- **Calcium** - cheese, yogurt, milk, tofu, bok choy, kale and broccoli
- **Vitamin D** - sunshine, eggs oily fish, cheese
- **Vitamin K2** - egg yolks, dairy (grass fed), dark chicken meat, natto



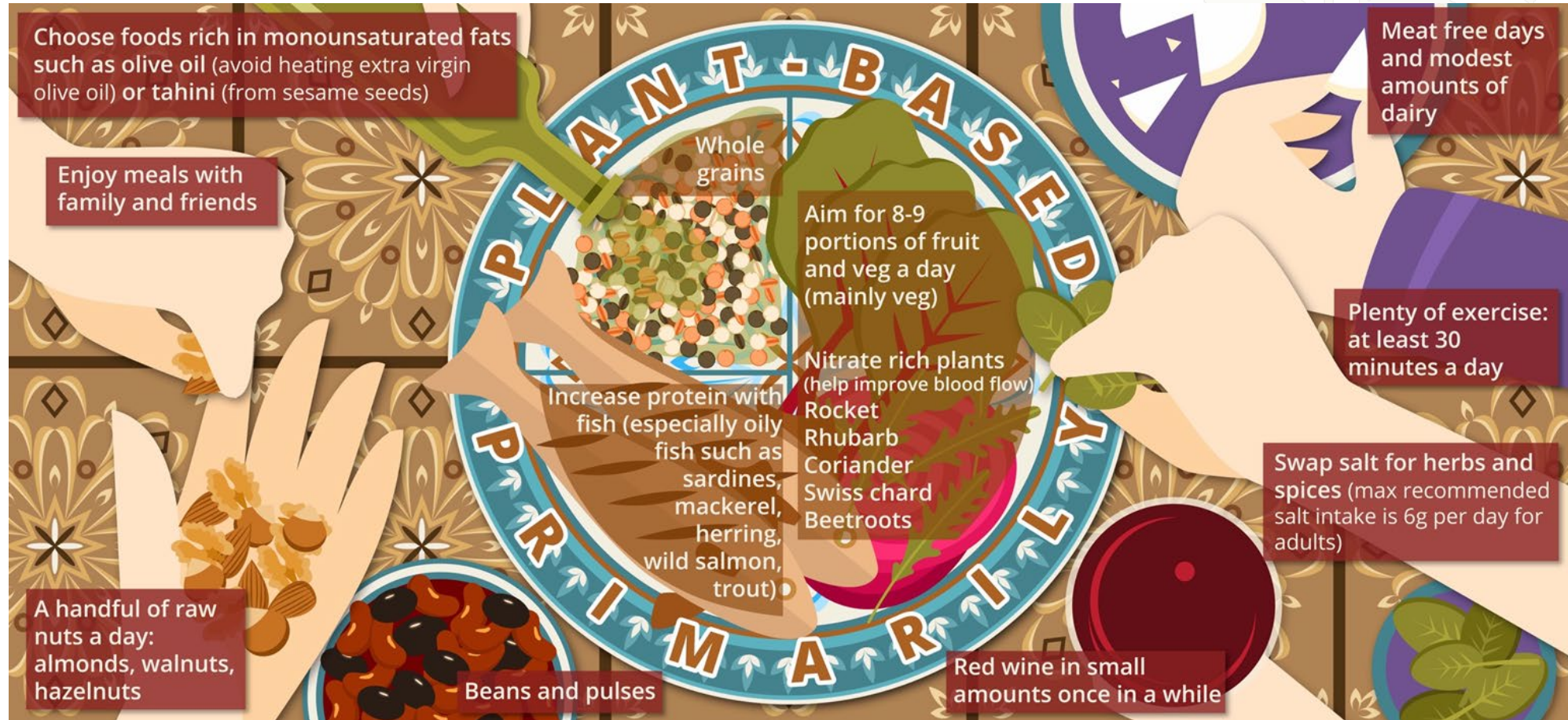


Nutrients



- **Protein** - eggs, poultry, fish, unprocessed meat, pulses, cheese
- **Vitamin C** - red peppers, oranges, kiwi, strawberries, broccoli, watercress
- **Magnesium** - dark leafy greens, pulses, seeds, nuts
- **Flavonoids** - blueberries, raspberries, strawberries and pomegranates are rich in polyphenolic flavonoids

2. Anti-inflammatory Diet



Choose foods rich in monounsaturated fats such as olive oil (avoid heating extra virgin olive oil) or tahini (from sesame seeds)

Enjoy meals with family and friends

Meat free days and modest amounts of dairy

Plenty of exercise: at least 30 minutes a day

Swap salt for herbs and spices (max recommended salt intake is 6g per day for adults)

Red wine in small amounts once in a while

Whole grains

Aim for 8-9 portions of fruit and veg a day (mainly veg)

Nitrate rich plants (help improve blood flow)
Rocket
Rhubarb
Coriander
Swiss chard
Beetroots

Increase protein with fish (especially oily fish such as sardines, mackerel, herring, wild salmon, trout)

A handful of raw nuts a day: almonds, walnuts, hazelnuts

Beans and pulses



Boost...

- **Oily fish** / seaweed / spirulina: contain anti-inflammatory EPA & DHA
- Whole nutrient-dense food e.g. **Mediterranean diet**, pulses, fish, garlic, olive oil
- **Anti-oxidant rich** brightly coloured fruit and veg e.g. peppers, kiwi, citrus fruits, watercress, strawberries, squash
- **Turmeric & Ginger**
- **Fresh herbs** daily!





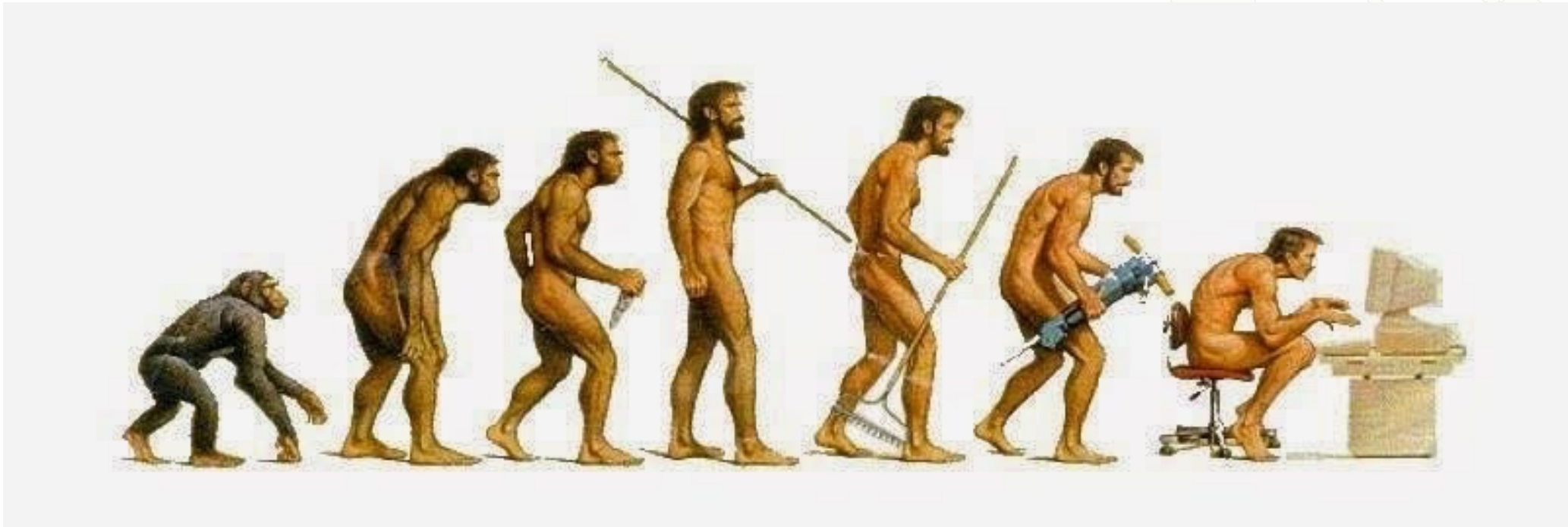
Cut back...

- Sugar
- White carbs
- Processed meats
- Trans-fats
- Alcohol
- Smoking
- For arthritis, the nightshade family-
tomatoes, aubergines, potatoes, peppers





3. Posture





Check your desk position

1. Support lower back
2. Check screen height
3. Sit at the right height
4. BBC (back-to-back of your chair)
5. Keyboard and mouse placement
6. Sit stand sit stand
7. Watch your posture





4. Let's Move! Exercises to incorporate into your day.

Desk Exercises:

- Chair squats
- Standing rear pulses
- Calf raises
- Arm pulses
- Arm circles
- Desk push-ups

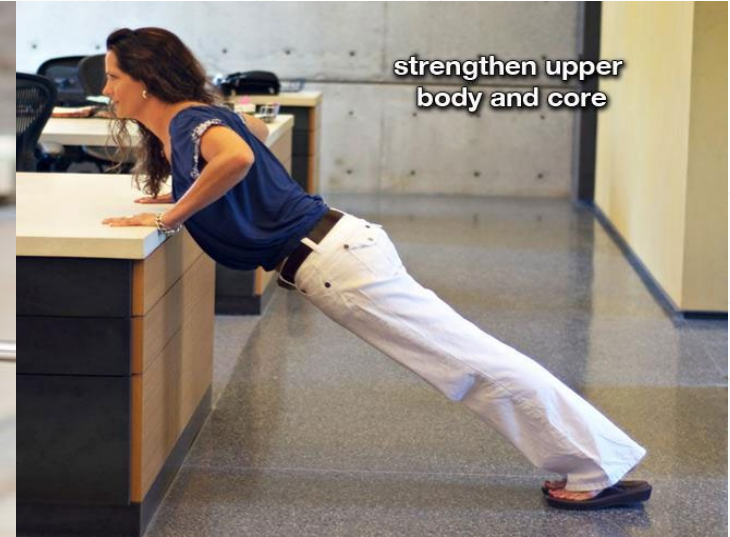
Desk Stretches:

- Chest opener
- Neck rolls
- Shoulder stretch
- Spinal twist





No excuses !!





Building muscles

Resistance exercise

- Treatment and prevention for **sarcopenia** (muscle wastage)

Increases:

- Muscle strength
- Muscle mass and function

Even in old age!

Research suggests a progressive resistance programme can increase protein synthesis in as little as 2 weeks!

Bones benefit too!





5. Self-care: Relax & de-stress

- Massage
- Mindfulness or meditation
- Yoga
- Breathing techniques
- Magnesium muscle soak





4-7-8 Breathing

1

2

3

4

HOLD
for 7

Out
for 8

7

6

5

4

3

2

1

Additional Resources

10 TOP TIPS for a HEALTHY home office environment

According to a recent survey by the Institute for Employment Studies (IES), the lockdown is causing half of those working from home new neck, shoulder or back pain and a third said they were eating less healthily.

1 Watch your posture when working

When we slouch we put pressure on our muscles and discs and stop the blood and oxygen flow, which creates a pain response to tell us to move. If repeatedly ignored, this can cause back issues.

2 Support your lower back

Support your lower back curve, so that you can relax back into the chair and keep your spine in an upright posture.

3 Check your screen height

The top of the screen should be close to eye height and straight in front of you. If you are using a laptop, use a separate keyboard and mouse. Also check that it isn't too far away and that you aren't leaning forward.

4 Sit at the right height

Ensure you are sitting with your arms at 90° to the desk to avoid neck and wrist tension. Either raise the seat height, if adjustable, or put some cushions on top of the chair. If your feet are off the floor, use a footrest or cushion to support them. Aim to have your hips slightly above your knees.

5 BBC (Back to Back of your Chair)

Sit right back in your chair, to support your back rather than perching or slouching forward. This helps to ease tension built up on your back.

6 Keyboard and mouse placement

Always close to the front of the desk. If you are reaching forward to use them, tension will build up.

7 Motion is lotion: sit stand

Do remember to take breaks every 40 mins or so. Our backs love movement and just the act of standing gets the blood, oxygen and nutrients flowing again, easing acid build up in our muscles and feeding oxygen to our brain.

8 Listen to your body

Pain and tension build up is your body telling you to move. So listen and respond to the signals. Variety is key, so try sitting for say 40 mins, stand for 5 to 10 and repeat.

9 Stay hydrated

Being dehydrated by just 2% can affect our concentration. Aim for 2l a day and keep a bottle on your desk as a reminder.

10 Healthy snacks

Stock up on nuts, seeds, dark chocolate, hummus, veggie sticks, oatcakes to satisfy cravings and keep temptation at bay.

Turmeric latte

Serves 1

Turmeric is full of antioxidants and anti-inflammatory compounds. Curcumin is the main active anti-inflammatory compound, and a white pepper contains a compound called piperine, which it manages to enhance the absorption of curcumin. Anti-inflammatory foods may be helpful for reducing symptoms of joint and musculoskeletal pain.

Ingredients

- 1/2 teaspoon ground turmeric
- 1 cup almond or coconut milk
- 1 tablespoon coconut oil
- Pinch ground cinnamon
- Pinch black pepper
- 1 teaspoon grated fresh ginger, optional
- 1/2 teaspoon vanilla, optional

Method

Combine all the ingredients in a small saucepan and heat gently until warmed through. Stir with a spoon to combine then pour the milk through a tea strainer.

Place in a blender and blend until frothy, or use a milk frother to froth.

Best enjoyed warm.

Salmon Fish Cakes

Serves 4 (makes about 8 fish cakes)

When it comes to bone health, there are several key nutrients that are important including calcium, magnesium and vitamins C and K. Many of us associate calcium with dairy products, but there are other ways we can find calcium in our diet. Using canned salmon with bones here really boosts the calcium content. Broccoli is also a good source of calcium, as well as magnesium and vitamin C and K, so adding a side of broccoli to the fish cakes makes this a super meal for healthy bones.

Ingredients

- 2 medium potatoes
- 2 cans red salmon (with bones), drained
- 100g smoked salmon, chopped
- 2-3 tablespoons ground almonds
- 1 egg, lightly beaten
- 100g frozen peas
- Large handful spinach, finely chopped
- 1-2 tablespoons olive oil or coconut oil

Method

1. Steam the potatoes over boiling water until soft. Mash with a fork and allow to cool. Set aside.
2. In a large bowl combine canned & smoked salmon, mashed potatoes, ground almonds, egg, frozen peas and spinach and mix to combine. Add more almonds if needed.
3. Divide the mixture into equal portions and shape into patties using your hands. You should get around 8-10 patties. Place in the fridge for 30 minutes to set.
4. Heat the oil in a fry pan over moderate heat and gently fry until lightly browned.
5. Serve here with a tomato and spinach salad, steamed broccoli and tomato chutney.

Tofu Scramble

Makes 2 portions

Calcium is the first mineral most people think of for bone health. It's also one of the most abundant, including magnesium and vitamin D and K. The tofu scramble is a quick and easy way for everyone to boost calcium levels, as well as those who find dairy hard to digest and digest.

Spinach, has great amounts of both magnesium and vitamin K, which build and maintain healthy bone tissue. And nutritional yeast is a good source of Vitamin D which supports calcium absorption. So give the bone supporting combo a whirl - at breakfast or as a light lunch meal.

Ingredients

- 2 spring onions or 1/4 leek, finely diced
- 2 tbsp rapeseed oil, or coconut oil
- 1 x 200g pack of soft silken tofu
- 1 tsp turmeric powder
- 1/4 tsp vegetable bouillon powder, such as Mergold
- 1/2 tsp black salt
- 1/4 tsp herb salt
- 2 sprigs of dill, chopped (optional) or a garnish
- 200g fresh mushrooms, quartered
- 3 large handfuls of baby spinach
- Salt and pepper to taste

Method

1. To tofu into a sieve, break up roughly with a fork and drain well. Then pat dry with kitchen roll. Mix turmeric, veg bouillon powder, paprika and herb salt together and then stir gently into the drained tofu.
2. Add half the oil to a fry pan and brown the mushrooms lightly over a high heat. Take out of pan. Add spinach to the pan, cover and wait for 2-5 mins. Take out of pan.
3. Gently fry the spring onions, or leek, in the remaining oil, until soft. Tip the seasoned tofu into the pan and move around very gently until cooked.
4. Serve all together on two plates and garnish, if or added dill, serve with toasted seeded bread.

TOP NUTRITION TIPS FOR HEALTHY BONES, JOINTS AND SOFT TISSUE

According to the World Health Organisation, up to 1 in 3 people live with a painful musculoskeletal condition, low back pain being the single leading cause of disability worldwide. People at all stages of life suffer from these conditions, the most common being osteoarthritis, back and neck pain, bone fragility, and rheumatoid arthritis. Risk factors include inadequate physical activity, obesity, smoking and poor nutrition.

SOME KEY NUTRIENTS

CALCIUM: BONE STRENGTH Cheese, yogurt, milk, tofu, bottling, kale and broccoli	PROTEIN: MUSCLE STRENGTH Meat, fish, egg, beans, tofu
VITAMIN D: CALCIUM ABSORPTION Sun is checked by your GP	VITAMIN C: CONNECTIVE TISSUES AND COLLAGEN HEALTH Fruit and vegetables
VITAMIN K2: BONE MINERAL DENSITY Use alongside VitD - dairy, meat, grains	MAGNESIUM: BONE HEALTH AND MUSCLE RELAXING Dark leafy greens, beans, seeds, nuts

ANTI-INFLAMMATORY DIET

AVOID Processed meats Alcohol Sugars	WHOLE GRAIN Whole grains Beans Lentils Nuts Seeds	WHOLE FOODS Fruits Vegetables Herbs Spices
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ADDRESS THE STRESS: RELIEVE MUSCLE TENSION

MINDFULNESS CBT **YOGA**

PHYSICAL ACTIVITY: MOVEMENT IS GOOD! ESPECIALLY IF YOU SPEND A LOT OF TIME DRIVING OR SITTING AT YOUR DESK

MASSAGE **BREATHING TECHNIQUES**

WALKING, SWIMMING, GOLFING OR JOGGING **WEIGHT BEARING EXERCISES** **NO IMPACT TRAINING**
Such as Pilates and Tai Chi for balance, posture and strength

Seek professional advice regarding manual handling and workstation ergonomics. Beware repetitive movement. Rest may be recommended for conditions such as RSI.

CONSULT YOUR GP IF SYMPTOMS PERSIST



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- Health and Wellness *5 exercises whilst working from home* <https://www.cnet.com/health/fitness/do-these-exercises-if-you-sit-at-a-desk-all-day/>



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