

DEMENTIA PREVENTION

Session 2 - Exercise

17 July 2023

Resources

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BOOK: *The End of Alzheimer's Programme* by Dr Dale Bredeesen

PLEASE NOTE:

These class materials are intended as background for the lifestyle support I'm giving you as your brain health coach. My element of Goldster's dementia prevention course is based on my training with Dr Dale Bredeesen's team and my experience as a health coach. I'm here to support you on the Wicking Centre/University of Tasmania Dementia Prevention MOOC (Mass Open Online Course) and I'll be doing the course along with you. Please do ask me any questions about the course and I'll do everything I can to help.

You can sign up for the Dementia Prevention MOOC here:

https://dementia.utas.edu.au/partner/partner_course/12-17-b4bbe54b15

Disclaimer

I'm not a doctor or a nurse. I can't prescribe, I can't give you advice on individual health issues. You need to talk to your GP about those. I'm here to guide you to make your own healthy choices, and to coach you to discover what's right for you.

The purpose of this course is to help you prevent dementia

There are two elements

1 = Dementia Prevention Mass Open Online Course from the Wicking Centre at UTas

2 = coaching support from me each week to complement that – I'm here to support you on the course and to add more practical lifestyle advice from my own training.

EXERCISE

How Does Exercise Support Health?

- Helps maintain a healthy BMI (body mass index)
- Promotes insulin sensitivity
- Reduces inflammation
- Decreases stress and anxiety
- Improves blood pressure
- Reduce the risk for heart disease and stroke
- Improves mood and sleep

Benefits of Aerobic Exercise for the Brain

- Improves cerebral blood flow
- Upregulates brain derived neurotrophic factor (BDNF – like ‘Miracle Gro’ for the brain)
- Reduces tau tangles
- Preserves brain volume and cortical thickness
- Fends off cognitive decline —even in those who are beta-amyloid positive— with 8,900 steps per day
- Activates the glymphatic system whereby beta-amyloid and other toxins are cleared

Benefits of Strength Training for the Brain

When we build muscle, we also build our brains. After the age of 50, we lose around 1% of our muscle mass a year, just when we need it most. This muscle wasting is called sarcopenia and we have to fight against it hard.

- Improves cognition, specifically executive functioning and memory
- Increases and stabilizes brain volume and decreases white matter lesions
- Promotes metabolic health
- Prevents and remediates sarcopenia (loss of lean body mass)
- Protects against loss of bone & bone fracture
- Slows biological aging

THE SIX TYPES OF EXERCISE TO CONSIDER:

1. Move Throughout the Day

- Rethink exercise. It’s not just one daily session, but rather moving throughout the day
- Sitting really is the new smoking. Think about when you are most sedentary during the day – what can you do to mix that up? Gentle stretches while watching TV, a standing or walking desk?
- Look for ways to stay active throughout the day
- Take the stairs

2. Take a Walk

- One of the best forms of exercise, that incorporates aerobic fitness with strength training (because it's naturally weight bearing) is simply walking
- Try to incorporate a daily walk into your routine
- Depending on your current fitness level, you may need to start slowly

- Increase the length of your walk by a few minutes a day until you reach 30 minutes or more
- Walk with a purpose

Strategies to Enhance Your Walk

- Get outside
- Walk with a friend
- Play with speed
- Intersperse with walking lunges, running drills, and other exercises
- Add music to enhance your walk
- Track your progress
- Brain train - learn as you burn. Podcasts, audio books etc

3. Get your cardio on

- Join a group exercise class
- Bicycle
- Swim
- Kayak
- Golf
- Tennis

Make Your Walk a Full-Body Workout

- Walking lunges • Wall sits
- Squats
- Calf raises
- Plank on a bench
- Running plank
- Triceps dips
- Push-ups

4. Strength Training

Try:

- Your own body weight as leverage
- Free weights
- Exercise bands
- Machines

Build Leg Strength

- Multiple studies have demonstrated that strong legs are correlated with better cognition
- Pushing more weight on a leg press predicts greater brain volume and cognition for the next ten years
- How to build leg strength: -Squats and lunges -Calf raises
- Leg presses
- Leg lifts and curls

5 High-Intensity Interval Training (HIIT)

- HIIT involves short bursts of intensive training intermixed with periods of recovery
- The goal is to push your muscles and cardiovascular system to maximum capacity for short periods
- HIIT has been shown to provide very similar health benefits as traditional exercise in a shorter amount of time, including lower body fat, heart rate, blood pressure with improved insulin sensitivity
- HIIT has been found to improve cognition function in older adults with the greatest improvements seen in speed processing, then memory, and executive function

HIIT Example

- There are endless variations of this strategy involving walking/running, strength training and more
- A classic example can be performed on a stationary bike
- After a brief warm up, find a comfortable steady state where you achieve a speed and tension level that expends about 50% of your maximum ability. After pedalling at this rate for 2-4 minutes, bring your speed and tension all the way up to 100% capacity for 30 seconds to one minute depending on your fitness level, returning to your steady state (50%) for another 2-4 minutes
- A typical session involves 4-6 high intensity periods always returning to a steady state in between followed by a cool down

6 Harness the Mind/Body Connection

- Research shows that a powerful synergy occurs when cognitive and physical exercise are combined
- Merging a meditative element, with physical athleticism as in yoga, Pilates, tai chi and qigong can be very powerful; reduces stress, inflammation, improves mood, cognition, and builds strength
- Many studies have shown that dance, especially choreographed ballroom dancing (any style) shows cognitive benefit by combining:
 - Cognitive
 - Physical
 - Social aspect

Always start gently and listen to your body

- Always check with your doctor before starting a new exercise regime
- Don't overdo. Gradually increase activity every day
- If you have a temporary or permanent limitation, work around it:
 - Seated exercise classes
 - Pilates or yoga
 - Tai chi or qigong

Get Out There!

Remember, there are no medications (nor any in the pipeline) that come close to demonstrating the improvements seen with daily exercise