



# Physical and Psychological Conditions

Use of exercise to prevent and improve them

**Nirvana Spa and Pulse 8 Seminar Series – Week 6**



## Heart Disease and High Blood Pressure

- The most common form of heart disease is coronary heart disease, also known as coronary artery disease (CAD). *Coronary heart disease* is a condition in which plaque builds up inside the coronary arteries. These arteries supply oxygen-rich blood to your heart
- High blood pressure is diagnosed as people with blood pressure above **90/150mmHg**
- Increasing strength of heart muscle, thickening of the walls, lowering BP, raising high density lipoproteins and good cholesterol, lowering low density lipoprotein, improving blood flow and transport, increasing hearts work capacity, increases fat loss and muscle gain (weight loss/fat loss goals)
- Cardiovascular training (intensity/duration/volume).



## Diabetes

- Diabetes occurs because the body can't use glucose properly, either owing to a lack of the hormone insulin (type 1) or because the insulin available doesn't work effectively (type 2)
- Exercise improves insulin resistance and lipid profile, reduces body fat (as with heart disease), helps with weight control, and movement leads to greater sugar uptake by cells and lowers blood sugar levels
- Cardiovascular exercise (duration/intensity/volume).



## Arthritis

- Arthritis is a form of joint disorder which involves **inflammation** of one or more joints. The most common form of arthritis is **osteoarthritis** which is a degenerative joint disease
- Exercise improves the range of movement and mobility, increases pain management and muscular strength, strengthens bones (limits osteoporosis), improves balance and coordination, reduces stress, improves sleep pattern and energy, and aids weight loss (stress on joints).



## Arthritis

- Gentle stretching to improve flexibility. These gentle stretching exercises should be done every day and are the most important of all your exercises. Yoga and Tai Chi may also be beneficial
- When you have arthritis, you need strong muscles to lessen the stress on your joints. Strengthening exercises can help build your muscles so they can absorb shock and protect your joints from injury
- CV training to make your heart, lungs, blood vessels and muscles work more efficiently. This can also result in improved endurance, stronger bones, improved sleep patterns, controlled weight and reduced stress, depression and anxiety.



## Multiple Sclerosis

- MS is an inflammatory disease of the CNS (brain and spinal cord). Predominantly it is a disease of the white matter which is made up of nerve fibres responsible for transmitting communication signals both internally within the CNS and between the CNS and the nerves supplying the rest of the body
- Exercise will increase energy (to avoid fatigue), improve balance and mobility, improved strength to avoid muscle spasms and stiffness, improves bladder and bowel problems (pelvic floor strength), psychological condition improvement (anxiety and depression).



## Multiple Sclerosis

- Exercise to help relieve fatigue, light CV work avoiding getting too hot
- Core and balance training to improve posture and balance
- Flexibility and ROM training to relieve muscle spasms
- Core and pelvic floor exercise to relieve bladder and bowel problems.



## Parkinson's Disease

- PD is a degenerative disorder of the central nervous system. It is idiopathic (having no known cause), although some atypical (irregular) cases have a genetic origin
- The most obvious symptoms are movement-related, including shaking, rigidity, slowness of movement and difficulty with walking
- Cognitive and behavioural problems may arise, with dementia commonly occurring in the advanced stages of the disease. Other symptoms include sensory, sleep and emotional problems. PD is more common in the elderly with most cases occurring after the age of 50.



## Parkinson's Disease

- Exercise is good for everyone and is especially important for people with Parkinson's as muscles and joints tend to get stiff and rigid
- Exercise can help you control movements and can keep stress, anxiety and depression levels low
- Recent research has shown that exercise seems to protect the dopamine-producing nerve cells that are lost in Parkinson's, helping them work better and survive for longer
- Improved control over gross motor movements such as walking, increased muscle strength and flexibility, increased CV fitness, improved coordination and balance, improved posture, reduced muscle cramping, greater confidence in performing daily activities.



## Parkinson's Disease

- Aim to build up to 8–10 repetitions of each exercise. Ideally, the exercise program should target the following:
- Overall fitness
- Muscle flexibility
- Legs
- Head and shoulders
- Arms and torso
- Face
- Hands and wrists
- Make sure to include a thorough stretching program
- Exercise your facial muscles, jaw, and voice when possible: Sing or read aloud, exaggerating your lip movements. Make faces in the mirror. Chew food vigorously.



## Muscular Dystrophy

- Muscular Dystrophy is a genetic disorder which weakens an individual's muscles which help the body move
- Inactivity further weakens the muscles. Exercise will increase fitness and strength, enhance mobility, reduce the risk of falling, and improve balance and coordination.



## Muscular Dystrophy

- Light CV to increase fitness, gradually increase in time. (duration more important than intensity)
- General strength training, focus on high reps rather than high weight. Multi-joint exercises are more beneficial
- General flexibility training to improve ROM, balance and coordination.



## Alzheimer's Disease

- During the course of the disease, protein 'plaques' and 'tangles' develop in the structure of the brain, leading to the death of brain cells. People with Alzheimer's also have a shortage of some important chemicals in their brain. These chemicals are involved with the transmission of messages within the brain. Symptoms can include can include loss of memory, mood changes, and problems with communication and reasoning. Alzheimer's disease is the most common cause of dementia
- Regular exercise cuts the risk of dementia, and might also help to delay progression of the condition in people who begin to develop symptoms.



## Alzheimer's Disease

- Aerobic exercise and heart raising activity will help people with the condition
- General light CV work (any source) and also strength training can help maintain a healthy body composition
- Achieving exercise goals will also give a sense of well being and success which may help with depression.



## Anorexia and Bulimia

- Anorexia nervosa is an eating disorder that involves an inability to stay at the minimum body weight considered healthy for the person's age and height. People with this disorder may have an intense fear of weight gain, even when they are underweight. They may use extreme dieting, excessive exercise, or other methods to lose weight
- Bulimia nervosa is an eating disorder and mental health condition. People who have bulimia try to control their weight by binge eating and then purging the food from their body by being sick or using laxatives.



## Anorexia and Bulimia

- Promote weight gain
- Promote healthy eating patterns
- Address thoughts, feelings and beliefs concerning food and body image
- Treat any physical complications or associated mental health problems
- Enlist family support
- Include correct learning of benefits of exercise and diet
- As with other eating disorders, bulimia has a number of different causes, including depression, low self-esteem and stress, emphasis should be on healthy eating patterns.



## Anxiety and Depression

- Anxiety is a form of negative self-appraisal characterized by worry, self-doubt, and apprehension
- Depression is a state of being associated with feelings of hopelessness or a sense of defeat. People with depression often feel “down” or “blue” even when circumstances would dictate otherwise. All people feel “depressed” at times, but a “depressed” person feels this way much of the time.



## Anxiety and Depression

- Releasing 'feel-good' brain chemicals (endorphins)
- Reducing immune system chemicals that can worsen depression
- Increasing body temperature may have calming effects
- Gain confidence by meeting exercise goals or challenges.
- Getting in shape can also make you feel better about your appearance
- Take your mind off of worries. Exercise is a distraction that can get you away from the cycle of negative thoughts.



## Anxiety and Depression

- Get more social interaction. Exercise may give you the chance to meet or socialise with others
- Cope in a healthy way. Doing something positive to manage anxiety or depression is a healthy coping strategy
- Trying to feel better by drinking alcohol, dwelling on how badly you feel, or hoping anxiety or depression will go away on their own can lead to worsening symptoms.



## Exercise Addiction

- Exercise is a generally a healthy behaviour that promotes wellness, however some individuals become addicted to physical activity and engage in compulsive, excessive exercise that is extreme in frequency and both psychologically and psychosocially impairing. Exercise becomes the most important priority in the exerciser's life. All other obligations and responsibilities such as families, careers, and social engagements suffer
- Desire to control their body weight or shape
- Feeling of inexplicable dread if exercise is not performed, or
- To achieve an exercise-induced high.



## Exercise Addiction

- Exercise addicts may have a very rigid fitness schedule to which they always adhere
- They may compulsively exercise alone to avoid attracting the attention of others, including trainers and gym staff
- Addicts will exercise even though they are sick or injured, in the end causing more physical problems for themselves
- They may miss work, school, or other social obligations to exercise
- Try to spend more time with family and friends, and get involved in community activities. Invest time in other hobbies that you enjoy, or consider consulting with a professional councillor.



Questions?