Exercise & Physical Activity

Physical Benefits
- Strengthens bones
- Improves posture
- Improves body shape
- Reduces risk of chronic Diseases (cancer, CHD, type 2 diabetes)
- Controls weight

Social Benefits
- Encourages social interaction
- Improves social skills
- Reduces isolation
- Improves self-esteem & confidence

Economic Benefits
- Reduces NHS costs
- Creates employment
- Supports local businesses
- Reduces absenteeism

Psychological Benefits
- Relieves stress
- Reduces depression
- Improves mood
- Improves concentration

Exercise Recommendations

Adults: Active daily and do at least 150 minutes aerobic activity per week, 2 days improving strength

Children aged 5–18: 60 mins every day, 3 days should be vigorous, 3 days should involve strength exercises

Negative Lifestyle Factors on Health and Well-Being

Smoking	Alcohol	Stress
Coronary Heart disease Lung & Mouth Cancer Lung Disease Emphysema Bronchitis Infertility	Stroke Liver Cirrhosis Hypertension Depression	Hypertension Angina Stroke Heart Attack Stomach Ulcers Depression

Sedentary Lifestyle	Lack of Sleep
Less than 30 minutes per week of exercise can lead to: • (CHD) • Stoke • Type 2 Diabetes • Cancers • Hypertension	Sleep allows your body to restore itself, lack of sleep and insomnia is linked to: • Heart Disease • Depression • Overeating 8 hours sleep per night

Diet

Balanced Diet
is one that provides the correct amount of nutrients required by your body

Benefits of a Healthy Diet
- Improved immune system
- Maintain healthy weight
- Reduced Risk of chronic Disease

Calorie Intake
- Men =2500
- Women 2000

Fluid Intake
- Water = 55-60% of weight
- Water is main transport System
- Regulates temperature

Caffeine Intake
- Caffeine is a mild stimulant
- Mildly addictive
- Can improve sporting performance
- Too Much can lead to physiological side effects such as: hypertension & digestive problems
- Can affect your mood
- 400mg = 4-5 Cups of Coffee

Alcohol Intake
14 Units For men & women

2/3 alcohol free days

1 unit = ½ pint or a small glass of wine

Modification techniques

Physical activity

Home
- Walking
- Housework/gardening
- Standing up more
- Exercise DVD

Work
- Stairs not lift
- Lunch time activity

Leisure Time
- Join gym/club
- Family outings
- Avoid excuses
- Invite a friend

Transport
- Walk/cycle (pedometer)
- Less reliant on car

Smoking
- Acupuncture
- NHS help line/services
- Nicotine replacement
- Electronic cigarettes

Alcohol
- Self-help groups
- Lower alcohol intake
- Counselling
- Alternative therapy

Diet
- Eatwell Guide
- Timing of meals
- Eat less of certain food groups
- Five a day
- Reduce salt intake
- Heathy alternatives

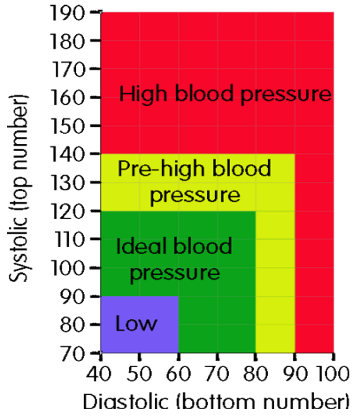
Stress
- Assertiveness training
- Goal setting
- Time management
- Physical activity
- Positive self-talk
- Relaxation / breathing techniques, meditation
- Alternative therapies such as counselling or medication
- Work life balance

Sleep
- Follow a bedtime routine
- Avoid drinking caffeine such as coffee and tea
- Take exercise two hour before bed
- Ensure sleeping environment is comfortable
- Avoid heavy meals before bed
- Avoid using alcohol to sleep
- Have a warm bath
- Listen to relaxing music
- Breathing techniques

Barriers to Change
- Time
- Money
- Transport
- Location

Health Monitoring Tests

Blood Pressure



Health Risks

- Risk of heart attack
- Risk of stroke
- Kidney disease

Treatment of Blood Pressure

- Eat less salt
- Eat more fruit and veg
- Maintain healthy weight
- Drink less alcohol
- Get more active
- Reduce caffeine intake

Heart Rate is affected by:

- Caffeine
- Alcohol
- Exercise
- Disease
- Drugs

Heart Rates

Men's Resting Heart Rate Ranges						
Age	18-25	26-35	36-45	46-55	56-65	65+
Athlete	49-55	49-54	50-56	50-57	51-56	50-55
Excellent	56-61	55-61	57-62	58-63	57-61	56-61
Good	62-65	62-65	63-66	64-67	62-67	62-65
Above Average	66-69	66-70	67-70	68-71	68-71	66-69
Average	70-73	71-74	71-75	72-76	72-75	70-73
Below Average	74-81	75-81	76-82	77-83	76-81	74-79
Poor	82+	82+	83+	84+	82+	80+

Women's Resting Heart Rate Ranges						
Age	18-25	26-35	36-45	46-55	56-65	65+
Athlete	54-60	54-59	54-59	54-60	54-59	54-59
Excellent	61-65	60-64	60-64	61-65	60-64	60-64
Good	66-69	62-68	65-69	66-69	65-68	65-68
Above Average	70-73	69-72	70-73	70-73	69-73	69-73
Average	74-78	73-76	74-78	74-77	74-77	74-77
Below Average	79-84	77-82	79-84	78-83	78-83	78-83
Poor	85+	83+	85+	84+	84+	84+

Hip to Waist Ratio

Can determine levels of obesity
Divide waist in cm by Hips in cm
Accepted health ranges
1.0 for men
0.85 for women

Calculating BMI

- Measure weight in kilograms and height in meters
- Divide the weight by their height
- Divide the answer by their height again

Body Mass Index (BMI)

<18.5 – Underweight
18.5 – 24.9 – Healthy range
25 – 30 – Above healthy range (may be overweight)
>30 – Classed as being obese
(Risk of stroke, CHD, type 2 diabetes)

Diet

Macronutrients

Carbohydrates are your bodies most readily available energy source

Simple (Sugar, Jam, Honey, Sweets, Fizzy Drinks)
Complex (Bread, Pasta, Noodles, Rice, Potatoes)

Fats used for energy, insulation and buoyancy

Saturated (Lard, Butter, Cakes, Chocolate)

Monounsaturated fats (Olive Oil, Peanuts)

Polyunsaturated (Margarine, Sunflower Oil, Oily Fish)

Proteins are used for growth and repair, Amino acids are the smallest unit of protein

Essential Amino Acids (EAA's) (Necessary in your diet as your body cannot make them). Foods that contain all EAA's are called: **Complete proteins** (eggs, meat, fish, milk). **Incomplete proteins** are those that lack more than one EAA's (cereals, rice, bread, pasta).

Micronutrients

Vitamins

Vitamin A – Function of Eyes and Respiratory Tract (green veg)
Vitamin B – Releases Energy from food (lean meat, eggs)
Vitamin C – Essential for Healthy Skin, Bone, Tissue (citrus fruit & veg)
Vitamin D – Healthy Bones as it Absorbs Calcium (fish, Eggs)

Minerals

Calcium – Bones and teeth (dairy products meat, veg, fish, nuts)
Iron – Component of Haemoglobin in the Blood (red meat, dried fruit)

Hydration is affected by:

Climate, exercise, time of year

Dehydration Can cause:

Nausea, headaches, dizzy, lack of energy, hot, short of breath

Hyperhydration Can Cause:

Low sodium levels (Hyponatremia)

Ergogenic Aids:

Energy gels and bars
Protein drinks
Carbohydrate loading

Optimum Weight:

Adapt diet to gain or lose weight

Sports Drinks:

Isotonic Drink:
During Exercise (4-8%)

Hypertonic Drink:
After Exercise (more than 8%)

Hypotonic Drink:
During Exercise (less than 4%)

Protein Drink:
Helps muscles heal
To prevent injury
Quicker to digest than solid food

Types of Fitness

Physical Fitness

- Aerobic endurance
- Strength
- Muscular Endurance
- Flexibility
- Speed
- Body composition

Skill Related Fitness

- Agility
- Balance
- Coordination
- Reaction Time
- Power

Training Methods

Aerobic Endurance Training Methods

- Continuous
- Fartlek
- Interval
- Circuit
- Training

Balance Training Methods

- Static Balance
- Dynamic Balance

Reaction Time Training Methods

- Using a stimulus

Muscular Strength Training Methods

- Resistance Machines
- Free weights
- Medicine ball
- Circuit Training
- Core stability
- Pyramid Sets

Flexibility Training Methods

- Static (Active/passive)
- Dynamic
- Proprioceptive neuromuscular Facilitation (PNF)

Speed Training Methods

- Hollow Sprints
- Acceleration Sprints
- Interval Training
- Resistance drills

Core Stability Training Methods

- Yoga
- Pilates
- Gym Based exercises

Coordination Training Methods

- Sport Specific

Muscular Endurance Training Methods

- Circuit
- Resistance Machines
- Free Weights
- Resistance Bands

Agility Training Methods

- SAQ

Power Training Methods

- Plyometrics

Training Zones

Anaerobic Threshold
80-100%

Peak Performance
80-90%

Aerobic Fitness
70-80%

Aerobic
60-80%

Fat Burning
60-70%

Active Recovery
60%

Warm-up Cool-down
50%

Advantages and disadvantages of Training Methods

Continuous Training
Good for aerobic fitness, lose weight accessible, health benefits, good for beginners of all ages, little equipment
Boring, not always sport specific, risk of injury does not improve anaerobic fitness

Fartlek Training
Good for team sports, less boredom, easy to use, can mimic the sport, god for team sports
Too easy to cheat, can be difficult

Circuit Training
Less boring, easily adapted for fitness/skill, easily adapted to sports, stations can target specific muscle groups
Take time to set up, requires equipment

Interval Training
Can be both aerobic and anaerobic, less technical, can mimic a sport, good for sports that require a change of pace
Can be boring, easy to cheat hard aspects,

Free weights
Full range of sporting movement, large muscle groups can be worked
Risk of injury, need a spotter, more suitable for advance performers, requires good knowledge

Resistance machines
Safer, good for beginners, good for injury rehabilitation
Expensive, no functional everyday movements, only focuses on one muscle group

Intensity (Sets Reps, Resistance & Rest)

Weight Training

Muscular Strength

Exercise	Reps	Sets	Weight	Rest
Bench Press	8	6	75% 1 rep max	3 mins

Muscular Endurance

Exercise	Reps	Sets	Weight	Rest
Bench Press	15	4	50% 1 rep max	30 secs

Interval Training

Aerobic (Endurance)

Time	Sets	Reps	Work/Rest	Relief
3-5 mins	1	4	1:1	Walk

Lactate System

Time	Sets	Reps	Work/Rest	Relief
30-80 secs	3-5	5	1:3	Jog

ATP-PC

Time	Sets	Reps	Work/Rest	Relief
10- 20 secs	5	10	1:3	Walk

Principles of Training

Principles of Training

- **FITT**
  Frequency (How Often)
  Intensity (How Hard)
  Time (How Long)
  Type (Type of Training)
- **Specificity** – matches the sport or fitness
- **Overload** – Working harder than normal
- **Progression** – Gradually make training harder
- **Reversibility** – Fitness deteriorates
- **Adaptation** – The body programmes the muscle to remember
- **Variation** – Vary training to prevent boredom
- **Individual Needs** – Training has to be personal (age/fitness/skill/gender)
- **Rest & Recovery** – Essential to adapt and recover the muscles

Examples of Progression/Overload Using the FITT Principle

Week 1	Week 3	Week 6
Frequency Train 2 times per week **Intensity** 15 reps - 40-50% of 1RM 20 mins 60% of Max HR 6 stations 30 seconds 2 circuits 30 seconds rest 10 X 60m Sprints (walk back to rest) 2 X 15 press-ups **Time** 20 minutes on treadmill 8 km/h Yoga 25 minutes	**Frequency** Train 3 times per week **Intensity** 20 reps - 40-50% of 1RM 25 mins 60% of Max HR 7 stations 30 seconds 2 circuits 30 seconds rest 12 X 60m Sprints (walk back to rest) 2 X 20 press-ups **Time** 25 minutes on treadmill 9 km/h Yoga 30 minutes	**Frequency** Train 5 times per week **Intensity** 25 reps - 40-50% of 1RM 20 mins 60% of Max HR 6 stations 30 seconds 3 circuits 30 seconds rest 10 X 80m Sprints (walk back to rest) 3 X 20 press-ups **Time** 30 minutes on treadmill 9 km/h Yoga 40 minutes

Objectives and SMART Targets

Aims Objectives & SMARTER Targets

Goal Setting

- Gives an aim and a focus
- Increases motivation
- Improve confidence
- Less likely to get bored

Aims

- What you hope to achieve, apply the:

SMARTER Principle

S = Specific
M = Measurable
A = Achievable
R = Realistic
T = Time Phased
E = Exciting
R = Recorded

Periodisation

Macrocycles (1 – 4 Years)
Mesocycles (Monthly)
Microcycles (Weekly)

Points to Remember

Consider:

- The sport/fitness levels
- What performer likes/dislikes
- Availability of equipment/finances
- Training is varied to maintain interest
- Refer all answers back to the individual
- Remember to offer alternatives to justify your answers

Examples of Training sessions

Interval training to improve aerobic endurance Run 5 minutes Rest 2 minutes (jog) Repeat 5 times Work at 60% of max HR	**Acceleration sprints to improve speed** Walk 20m stride 20m sprint 30m Repeat 6 times Rest 3 minutes between sets	**Plyometric training to improve power** Using ladders, boxes, hurdles, benches, cones 3 sets of 10 repetitions 3 mins rest between sets
Yoga to improve core stability and flexibility 25 minutes performing a variety of exercises to build core strength and flexibility using 1kg weights	**Weight training to improve muscular strength** Alternate upper and lower body parts trained 6 reps, 6 sets 75% 1 rep max 3 mins recovery between sets	**Circuit training to improve muscular endurance** 6 stations, 45 secs on each station, 2 circuits 2 mins rest between stations Work at 70 % of max HR
Weight training to improve muscular endurance Alternate upper and lower body parts trained 20 reps, 4 sets 50% 1 rep max 30 seconds rest between sets	**Continuous training to improve aerobic endurance** 40 minutes jogging No rest Working at 70 % of max HR	**Continuous training to improve general fitness** Park 2 miles away from walk brisk walk in. Repeat on the way home Work at 60% of max HR