



VTCT

USP185 – Planning and instructing gym-based exercise programmes

LO1 Know how to consult with clients and collect information to plan gym-based exercise

Content and Assessment Criteria

- Know the purpose of the client consultation
- Know health screening and risk stratification
- Know how to developing effective working relationships with clients
- Know how information gathered will affect planning





Activity

- **Why would a fitness instructor need to consult with a client?**



The client consultation

Purpose:

- To support the client through their customer journey and experience
- To support planning of safe and effective sessions
- To identify the clients that need signposting to other health care professionals
- To meet insurance requirements
- To meet professional and ethical standards
- To meet organisational customer service commitments
- To identify related products and services to enhance customer experience



Purpose of health screening

To identify clients who:

- are able to participate, for example, apparently healthy and informed consent obtained
- need referral and signposting to GP for clearance, for example, PAR-Q, CVD risk factors, any client or instructor concerns, inactive older adults – over 65
- need temporary deferral, for example, inappropriate clothing or footwear, feeling unwell, pregnancy



Type of information gathered

- Personal information, for example, gender and age
- Medical conditions and medications
- Current and past exercise experience and activity levels
- Physical measures, for example, posture and blood pressure
- Activity likes and dislikes
- Lifestyle and habits, for example, time available, diet, smoking, etc.
- Goals and reasons for exercising
- Barriers to participation



Methods

- **Written questionnaires** – PAR-Q, PARmedX, iPAQ etc
- **Consultation** – interview, verbal question and answer, observation for example, body language
- **Health measures** – blood pressure, heart rate, BMI, waist circumference, height, weight, posture, body composition
- **Functional assessments** – sit to stand
- **Physical assessments** – flexibility, strength and endurance, cardiovascular
- **Skills assessments** – balance, power, speed



Appropriateness of methods

Determined by:

- **Safety** – assessments should not offer great risk
- **Client age**, for example, functional assessments for older adults
- **Current activity and fitness**, for example, if inactive are fitness assessments needed?
- **Current health**, for example, some assessments would be higher risk
- **Physical limitations**, for example, step test inappropriate for arthritis of knee
- **Client modesty**, for example, some measures invasive and insensitive for visibly obese
- **Language spoken**, for example, written questionnaires may be inappropriate
- **Reason for gathering information** – what purpose and how used?
- **Equipment available**
- **Any specific protocols**, for example, test specific



PAR-Q

- Medical health check
- Current industry requirement
- List of closed questions – yes or no
 - **Yes** responses need to be **signposted to GP**
 - **No** responses – **can participate**
- Quick
- Immediate
- Provides permanent record
- Information has to be checked and updated
- CSEP website provides questionnaire and clearance letter



Verbal questions – Consultation

- To gather likes, dislikes, goals
- Conversational approach
- Builds rapport – can get to know client
- Can probe and ask for more information
- Need effective conversation and questioning skills
- Need to listen
- Need to record information
- Need to maintain confidentiality
- Need private area for consultations



Risk stratification

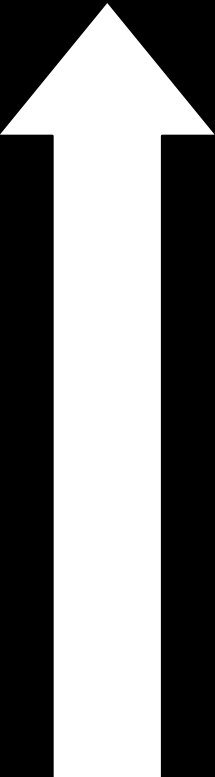
An approach to assess risk

- Assess client readiness and suitability to be more active
 - PAR-Q
 - PARmedX
 - Risk stratification tools
- Identify clients who may be at an increased risk during exercise
 - Low
 - Moderate
 - High risk
- Assist exercise prescription and recommendations
- Assist identification of appropriate levels of supervision
- Identify clients who need medical referral



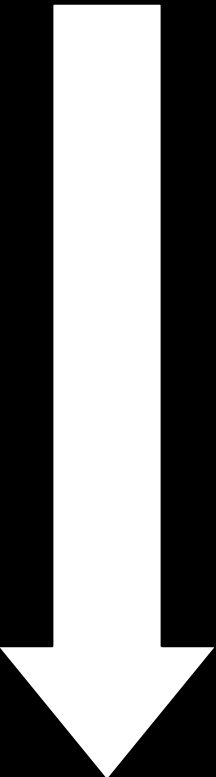
Risk stratification

Risks of exercise



Cardiovascular efficiency
Psychological wellbeing
Mobility
Independence
Increases bone density
Quality of life
Reduce risk of chronic disease
Weight management

Immediate increase blood pressure and heart rate
Angina, heart attack
Asthma attack
Strains and sprains
Fainting
Hyperthermia
Hypoglycaemia



Benefits of exercise



Risk stratification

- There are risks attached to most behaviours – exercise, drinking alcohol, smoking, inactivity, diet
- The **key** is to identify the **level of risk**
- Use health and safety risk assessment process

HSE risk assessment:

- What is the likelihood of an incident happening
Unlikely to occur 1 – 2 – 3 – 4 – 5 Highly likely to occur
- How severe would the outcome be?
Minor injury 1 – 2 – 3 – 4 – 5 Major injury, disability, death
- Calculate the score by multiplying likelihood x severity



Informed consent

- Essential requirement prior to any assessments or advice and programming
- Signed and dated record
- Legal record, should be checked by legal professionals
- **To give consent, clients need to be fully informed!**



Informed consent

- The purpose of the assessment or guidance
- An outline of what will happen and reasons
- The benefits and any potential risks
- What the instructor has done or will do to ensure safety, for example, PAR-Q
- Any discomforts the client may experience, for example, feel hot and sweaty during exercise
- The client responsibilities, for example, what they need to tell you
- Explanation that participation is voluntary
- Confidentiality and privacy statement
- The opportunity for the client to ask questions
- A record of all questions asked and answers
- Client and instructor signature and date



How to develop effective working relationships

- Maintain codes of conduct and ethics
- Respect customer needs
 - Equality and diversity
 - Different customer needs
 - Adapting communication to meet diverse needs
- Build a rapport with clients
- Apply effective communication skills
 - Active listening
 - Non-judgmental
 - Positive feedback
 - Appropriate body language



Importance of records

- Legal requirement
- Professional practice
- Permanent record of client screening, assessment and programming
- Inform future programming and client work



Records needed

- Screening forms
- Informed consent
- Personal details, for example, contact information, etc.
- Assessment and consultation records
- Programme plans
- Updates to programme plans



Legal and ethical implications

- Purpose of collecting information?
- How is information to be used?
- Who has access?
- Maintaining client confidentiality
- Legislation – data protection, freedom of information, information transfer, equality, health and safety
- Secure storage
- Client modesty and sensitivity
- Client motivation
- Client rights to access information
- Legible and factual records
- Standard forms (where appropriate)



Key principles for recording

- Complete within 24 hours
- Use black, permanent ink
- Any errors should be crossed through and initialled
- Never use correction fluid
- Factual information
- Sign and initial each page
- Details of programme, client response, changes and modifications
- Advice and recommendations given to client



Data protection and client records

- All records must be made accessible to the client (on request)
- Not shared with other parties, unless consent gained
- Only shared for professional purposes, for example, GP
- Stored securely – locked cabinet or password protected
- Computer records must be saved with date and time
- Keep all original records
- Updates to records should be maintained separately
- Store records for a minimum of 8 years (or for children under 12, maintain records until their 25th birthday)



How can information be used to plan a session

Client information will determine:

- The instructor skills and type of session, for example, Pilates, aqua, exercise referral
- Session structure
- Content, intensity and duration of warm up and cool down
- Content, intensity and duration of main workout
- The components of fitness selected, for example, cardio, flexibility, muscular
- The equipment used



How can information be used to plan a session

Client information will determine:

- Structure of the session
 - Warm up/cool down
 - Main exercises
 - Session type
- Programming
 - Application of FITT principles
- To confirm and ensure goals and objectives are met
 - Confirm and create SMART goals
 - Assist in motivation and exercise adherence
 - To meet the needs of the client



Client objectives

Agree objectives with clients to assist goal setting and programme planning to achieve goals and meet needs.

Can be very broad and non-specific:

- Lose weight
- Improve health
- Improve posture
- Get fit
- Build muscle
- Tone up
- Be more active
- Meet friends





Learning check

- List three pieces of information required to collect before planning a session
- Explain how information could be used to plan a resistance training session
- List three ways in which a session can be planned to reduce risks
- Describe how SMART goals can contribute to effective planning
- Explain the importance of informed consent





VTCT

USP185 – Planning and instructing gym-based exercise programmes

LO2 Know how to plan and prepare for gym-based exercise with clients

Content and Assessment Criteria

- Know the client information that must be analysed and considered when planning gym-based exercise
- Know appropriate exercises to develop the components of fitness
- Know how to induct clients in the gym environment
- Know how to plan a gym-based exercise programme
- Know how to plan to minimise any risks
- Know how to modify planning for integrating special populations into a gym-based session
- Know how to apply the principles and variables of training to progress and regress exercises and activities
- Know the effects of speed, levers, gravity and resistance on exercise safety and effectiveness





Activity

- **What information do you think you would need to analyse when planning gym-based exercise**



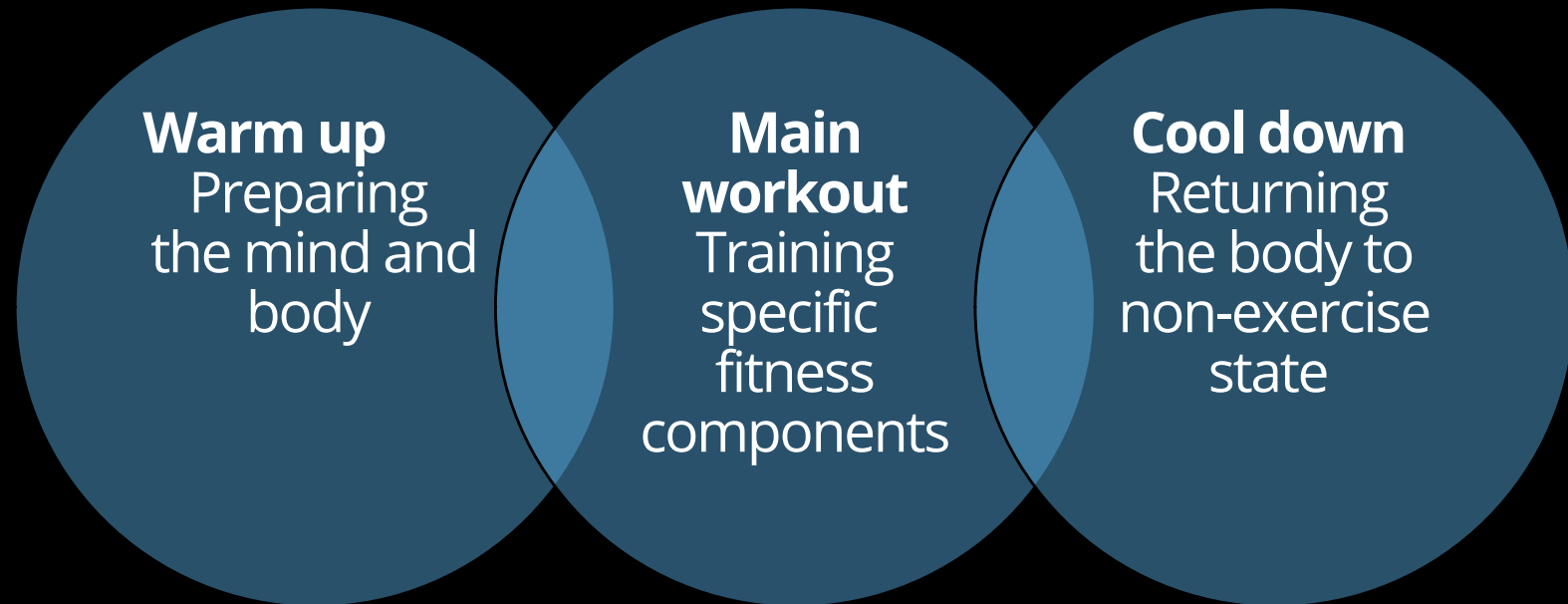
Client information

- **Clients goals** – short, medium, and long term (SMART formula)
- **Client health status** – responses to PAR-Q, lifestyle, motivation, barriers, preferences, results from any physical or health assessments
- **Client fitness, skill and experience** – beginner or experienced gym equipment user, motor skill and fitness levels
- **Client availability** – time and dates



Planning gym-based exercise

Session structure:



Warm up

- **What?**
 - Start of session
- **Why?**
 - Preparation for the body and mind
- **How?**
 - Mobilise joints to be used
 - Warm muscles
 - Increase heart rate
 - Lengthen muscles
 - Skill rehearsal



Warm up activities

- Joint mobility through full range of motion, dynamic stretches and use of CV machines, etc.
- Warming and pulse raising, for example, body weight exercises or use of CV machines to increase heart rate gradually
- Muscle lengthening, for example, static or dynamic stretches
- Skill rehearsal, for example, rehearse movements in main workout, shoulder press action or rowing action
- Need around 5-15 minutes (depending on client) to enable gradual preparation of body systems



Cool down

- **What?**
 - End of session
- **Why?**
 - Return body to non-exercise state
- **How?**
 - Decrease intensity
 - Lower heart rate
 - Lengthen used muscles
 - Develop flexibility
 - Relax mind and body



Cool down

- Allow sufficient time – according to client fitness and needs
- 5-15 minutes (depending on client)
- **Content:**
 - Pulse lower after cardiovascular exercise to assist venous return and prevent blood pooling
 - Stretch muscles worked – maintenance stretches
 - Improve flexibility – developmental stretches for short or tight muscles
 - Relaxation and breathing focus
- Give clients feedback on the session
- Ask for client feedback
- Pack away any equipment



Exercises to develop components of fitness

Cardiovascular fitness

- Cardiovascular machines
- CV bodyweight exercises



Exercises to develop components of fitness

Cardiovascular machines to be inducted

- Upright cycle
- Recumbent cycle
- Treadmill
- Stepper
- Rowing machine
- Elliptical trainer
- Cross trainer

Can be used for warming up, cardiovascular training and pulse lowering.



Exercises to develop components of fitness

Cardiovascular fitness

- CV bodyweight exercises:
 - Step ups
 - Running on spot
 - Sprints
 - Mountain climbers
 - Burpees
 - Jumping jacks

Can you think of any more?



Cardiovascular fitness review

Frequency	Three to five days a week
Intensity	Moderate – 40%-59% of heart rate reserve (HRR) Vigorous – 60%-89% of HRR Light to moderate – 30%-39% HRR can be beneficial for deconditioned clients
Time	<ul style="list-style-type: none">• Between 20-60 minutes<ul style="list-style-type: none">◦ 30-60 minutes of moderate intensity exercise per day◦ 20-60 minutes of vigorous intensity exercise per day◦ <20 minutes per day can be beneficial for previously sedentary individuals
Considerations	to attain the recommended targeted volumes of exercise. This recommended amount of exercise may be accumulated in one continuous exercise session or in bouts of ≥ 10 min over the



Approaches

Continuous – long slow distance

- Offers a foundation for aerobic fitness
- Steady state at same level of intensity
- Endurance training

Interval

- Structured work and rest periods
- Aerobic and anaerobic

Fartlek

- Speed play
- Random approach to intervals
- Aerobic and anaerobic



Exercises to develop components of fitness

Muscular fitness

- Resistance machines
- Free weight exercises
- Body weight exercises



Resistance machine examples

- Seated chest press (neutral grip, BB grip), Bench press
- Pec dec
- Seated row (low pulley, neutral grip, BB grip)
- Shoulder press
- Lat pull down (in front of chest)
- Assisted pull up
- Tricep press and pushdown (high pulley)
- Bicep curl (seated, low pulley)
- Leg press
- Total hip
- Seated knee extension
- Leg curl (seated and lying)
- Seated abductor, adductor
- Abdominal machine
- Lower back machine

Muscular fitness and light sets to warm up



Body weight exercise examples

- Chins
- Press-up
- Lunge
- Squat
- Abdominal curl/plank
- Back raise

Muscular fitness

Can be part of a circuit weight training session



Muscular fitness

Training goal	Strength	Hypertrophy	Endurance
Frequency For each muscle group	1-2 per week	1-2 per week	2-3 per week
Intensity % of 1 RM	> 85%	67-85%	< 67%
Repetitions	1-5	6-12	12-15+
Sets for each exercise	2-6 sets	3-6 sets	2-4 sets
Rest between sets	3-5 minutes	1-2 minutes	30-60 seconds



Programme design

Consider:

- Muscle balance
- Large muscle groups and more complex exercises first
- Smaller muscle groups and isolation exercises later

Variables:

- Number of exercises
- Type of exercise and equipment
- Number of repetitions, sets and rests, recovery periods between sets
- Movement complexity, speed



Programme design

New to training – be considerate to lower fitness and skill level

- Less exercises
- More stable and simpler exercises – body weight or fixed resistance
- Single sets, fewer repetitions and lower resistance
- 2-3 days a week

Experienced trainer – be considerate to training goals

- More exercises
- More complex exercises, use of free weights
- More sets
- Increased resistance or repetitions (according to goals)
- Increased workout frequency, for example, split routines



Exercises to develop components of fitness – flexibility

Range of motion and dynamic stretches – used in the warm up, mimic the movements planned in the main session, for example, chest press, squat action

Preparatory – part of warm up to lengthen muscles.

Static stretches – used warm up and cool down, muscle lengthened and position held

- Active
- Passive

Maintenance – after exercise to re-lengthen muscles

Developmental – after exercise to improve flexibility. Held for longer and range of motion taken further



Stretching guidelines

Static stretching:

Frequency	Sets	Repetitions	Duration
Daily (unless otherwise specified)	NA	1-3	20-30 seconds

Dynamic stretching:

- 1 set
- 10-15 repetitions
- 3-10 exercises



Stretching guidelines

Warm up stretches	Cool down stretches
<ul style="list-style-type: none">• Dynamic stretching• Static stretching where required	<ul style="list-style-type: none">• Static stretching• Maintenance and development stretching





Activity

Identify one static, dynamic and developmental stretch for the following muscle groups:

- **Hamstrings**
- **Pectoralis major**
- **Adductor muscle group**



Session structure

Warm up	Mobility, pulse raising, preparatory stretching, induction and skill rehearsal, use of appropriate cardiovascular machines or bodyweight exercises.
CV component	Increase heart rate, maintain heart rate in training zone, lower heart rate, mix impact, use appropriate cardiovascular machines or bodyweight exercises.
Muscular fitness	Muscle balance, appropriate exercise sequencing (large to small muscles, compound to isolation exercises), use of appropriate resistance machines, cable machines, body weight exercises, free-weights, appropriate reps, sets, rest, speed and range of motion and resistance.
Cool down	Pulse lowering after cardiovascular training, circulation boost after resistance training, core exercises as appropriate, maintenance and developmental stretching, appropriate stretch positions.

Inducting clients

Skills and qualities

- Subject knowledge
- Communication skills
- Able to motivate
- Professional
- Approachable
- Empathy
- Positive attitude
- Personal fitness



Instruction skills

- Accurate demonstration
- Effective explanation – clear, concise and simple
- Use of teaching sequences, IDEA and NAMSET
- Observation skill
- Ability to motivate
- Use of voice – tone, volume, projection
- Give teaching points – immediate and timely
- Accessible language
- Motivational with positive feedback
- Modifications for all exercises
- Use of body language, for example, visual cues and expressions



Planning to minimise risks

Prepare self and equipment for a gym-based exercise programme

- Wear appropriate clothing
- Organise and check equipment prior to use
- Use safe manual handling (where appropriate)
- Ensure appropriate client records are available
- Review client information prior to session



Planning to minimise risks

Checks to environment and equipment

- Hazards and risks to be managed
- Temperature, space, other gym users
- Other professionals who can support with health and safety issues, for example, first aider, health and safety officer, duty manager, gym manager
- Availability of equipment
- Client clothing, footwear, chewing gum, water availability
- Storage of equipment – free weights, stability balls, mats, collars, benches
- Organisation guidelines for reporting equipment that is faulty or requires maintenance



Older adults

- The ageing process is highly individual
- People age at different rates
- Progressive decline in functioning of body systems
- Effects to:
 - mobility, independence, risk of chronic health conditions, level of frailty and risk of falls
- Activity assists functioning
- Effects generally start around the age of 50
- By age 65, effects more apparent



Older adults: Contra-indications



- Resting blood pressure 180/90
- Resting heart rate > 90bpm
- Multiple CVD risk factors
- Combinations of symptoms of other chronic health conditions
- Also contra-indicated, risk of falls, poor functional status





Activity

Think about how an exercise session and its structure would need to be modified to accommodate these changes and effects?



Key safety guidelines

- Longer and more gradual warm-up and cool down
- More mobility exercises and build range of motion gradually
- Slower pace and more time for transitions and changing position
- More stable and balanced exercise positions
- Less complex moves and lower impact
- Build intensity more gradually and lower working intensity
- Focus on correct alignment and technique
- Layer instructions
- Lighter resistance, less repetitions and sets, and more rest
- Strengthen postural muscles and pelvic floor muscles
- Strengthen fracture sites for osteoporosis (wrist, hip and spine)



Ante and post natal



Trimester and postnatal changes

First	Second	Third	Postnatal
<ul style="list-style-type: none">• 0-3 months• Weight gain 1-3 kg• Morning sickness• Breasts and uterus enlarge• Hormonal changes for example increased relaxing	<ul style="list-style-type: none">• 3-6 months• Weight gain 6-8 kg• Postural changes• Abdominal muscles stretch and lengthen• Centre of gravity (CoG) changes	<ul style="list-style-type: none">• 6-9 months• Weight gain 3-4 kg• Tired more easily• Pelvic floor under more stress• Joints less stable• Increased lordosis• Balance affected by CoG changes	<ul style="list-style-type: none">• Hormone levels high• Weaker pelvic floor• Pelvic girdle less stable• Diastasis recti• Abdominals weaker



Ante and postnatal: Contra-indications

- **Relative include**
Severe anaemia, poorly controlled type 1 diabetes, orthopaedic limitations, heavy smoker
- **Absolute include**
Pre-eclampsia, premature labour during current pregnancy, placenta praevia after 26-week gestation

(Also refer to ACSM guidelines)





Activity

Think about how an exercise session and its structure would need to be modified to accommodate these changes and effects?



Key safety guidelines

Antenatal

- If inactive, work towards physical activity guidelines
- Avoid contact sports
- Avoid exercising in supine position after 16 weeks
- Avoid prone exercises
- Avoid exercising in hot, humid environments
- Avoid heavy isometric exercise
- Avoid complex balance challenged or uncontrolled exercises
- Avoid high impact work



Key safety guidelines

Postnatal return to exercise

- 4-6 weeks after normal delivery
- 8-10 weeks after caesarean delivery
- Build gradually
- Light to moderate intensity activity does not interfere with breast feeding



Young adults (13-18): Contra-indications



- Stage of growth and development, musculoskeletal injuries (growth plates)
- General exercise contra-indications may also apply



Growth spurt

- **Girls**
 - Starts between the ages of 10 and 12
 - Fastest growth period around age 12 to 13
 - Ending around age 18
- **Boys**
 - Starts between the ages of 12 and 14
 - Fastest growth period around age 14 to 15
 - Ending around age 20
- Growth cartilage more vulnerable
- Growth plate fractures more common
 - Boys age 14-16
 - Girls age 11-13





Activity

Think about how an exercise session and structure would need to be modified to accommodate these changes and effects?



Key safety guidelines

- Safeguarding legislation where appropriate
- Longer and more gradual warm up and cool down
- Lower impact, intensity, repetitions, resistance
- Less complex
- Focus on technique
- Adapt stretch positions and range of motion
- Stretch to the point of mild tension, avoid ballistic stretching



Key safety guidelines

- Maintain hydration
- Be mindful of behaviour and regard to safety (ground rules)
- Be mindful of body image issues (eating disorders are a contra-indication)
- Avoid exercising in hot and humid conditions
- Can participate in strength training under supervision (8-15 repetitions to point of moderate fatigue)
- Children with medical conditions require specialist and adapted programme (for example, asthma, obesity, cerebral palsy, diabetes)
- Inactive or obese young adults should work towards physical activity guidelines



Disabled people



- Estimated 10 million registered disabled people in the UK
- Registered disabilities include:
 - Deaf or partially hearing
 - Blind or partially sighted
 - Down's syndrome
 - Cerebral palsy
 - Chronic health conditions (for example, stroke, obesity, cancer, arthritic conditions)
 - Mental health conditions (for example, severe depression, post traumatic stress disorder)
 - Limb amputation
 - Fibromyalgia



Effects

- **Neurological**
For example, muscular dystrophy – decline in the central nervous system (CNS) function, muscles become weaker
- **Mental**
For example, severe depression, PTSD – affects outlook on life, reduces motivation and energy levels, suicide risk
- **Sensory (visual, auditory)**
Sensory nerves damage can affect sight, hearing and physical/touch sensation, For example, inability to detect pressure against the skin can result in a pressure sore
- **Progressive**
For example, multiple sclerosis, worsen over time
- **Asymmetrical**
For example, stroke and cerebral palsy – affect different sides of the body



Disabled people: Contra-indications

- Impaired physical condition and function
- Impaired motor skills
- Impaired neurological or cognitive function
- Impaired sensory function
- Musculoskeletal imbalances and postural deviations





Activity

Think about how an exercise session and structure would need to be modified to accommodate these changes and effects?



Key safety guidelines

- Promote inclusion
- Specific needs will determine exercise selection
- General guidelines:
 - Reduce intensity – simplify, slower, less repetitions, lower resistance, appropriate range of motion
 - Modifying exercise positions, increase support and balance
 - Use alternative modalities, for example, water-based or chair-based
 - Consider accessibility and health and safety
 - Adapt teaching and communication style, for example hearing or visually impaired



Principles of training



- Frequency
- Intensity
- Time
- Type
- Specificity
- Progressive overload
- Reversibility
- Adaptability
- Individuality
- Recovery



F.I.T.T.

- **Frequency** – how often?
For example, the number of training sessions per week
- **Intensity** – how hard?
For example, the level of effort required
- **Time** – how long?
For example, the length of time spent training
- **Type** – what component of fitness?
For example, the exercise mode – specificity





Review

Think about how you would apply these principles to a progressive training programme, developing all components of fitness, including:

- Cardiovascular
- Muscular
- Flexibility



Cardiovascular fitness



- 3-5 days a week
- Moderate to vigorous intensity
- 20-60 minutes or up 60 minutes of continuous or intermittent activity
- Moderate: 30 minutes, which can be accumulated in bouts of 10 minutes or more
- Vigorous: 20 minutes sustained



Muscular fitness

- 2-3 days a week for same muscle groups on non-consecutive days
- Resistance or % of one repetition maximum (1RM): 40-50% for older or sedentary adults, 60-70% for beginners, > 80% for experienced
- Repetitions 8-12 repetitions for muscular fitness (10-15 repetitions for beginners or 15-20 repetitions for endurance)
- Sets and rests: single sets effective for beginners or older adults. 2-4 sets for adults. < 2 sets is for endurance. Intervals or 2-3 minutes between sets



Flexibility



- At least 2-3 days a week, ideally every day
- Stretch to the point of mild discomfort
- Static stretches 10-30 seconds.
2-4 repetitions of specific muscle stretches
- PNF – static contraction for 3-6 seconds followed by 10-30 second static stretch



Specificity

Physiological implications:

- Different types of exercise and training will bring about different effects
- Body systems will respond differently to specific types of training



Specificity

Physiological implications:

The body will respond and adapt to the specific type of training. Different types of exercise and training will bring about different effects.

Differences may include:

- The muscles and joints used
- The type of muscle work
- The muscle fibres recruited
- The predominant energy system
- The range of motion
- The speed of movement



Progressive overload

Physiological implications:

- Workload must increase gradually to maintain progress and enable continued adaptation
- The stimulus must be of a significant level, for example, not too easy or too hard
- Challenge without overworking



Reversibility

Physiological implications:

- Use it, or lose it!
- Physiological adaptations and gains will be lost if training ceases



Adaptability



Physiological implications:

- The way the body responds
- The physiological adaptations will be specific to the type of training
- The body will aim to improve and meet the demands
- The body will respond to enable it to cope more efficiently the next time the demand is experienced



Individuality

Physiological implications:

- People are individuals
- Different genetic make up
- Different body types
- Two people can have very different physiological responses depending on their:
 - Age
 - Gender
 - Skill level
 - Fitness level – flexibility, strength, endurance, cardiovascular
 - Physical training potential



Recovery time

Physiological implications:

- The body needs time to rest between training sessions
- Rest time is when the body adapts and makes the changes it needs to make
- Planned rest and recovery periods are an essential aspect of any training plan



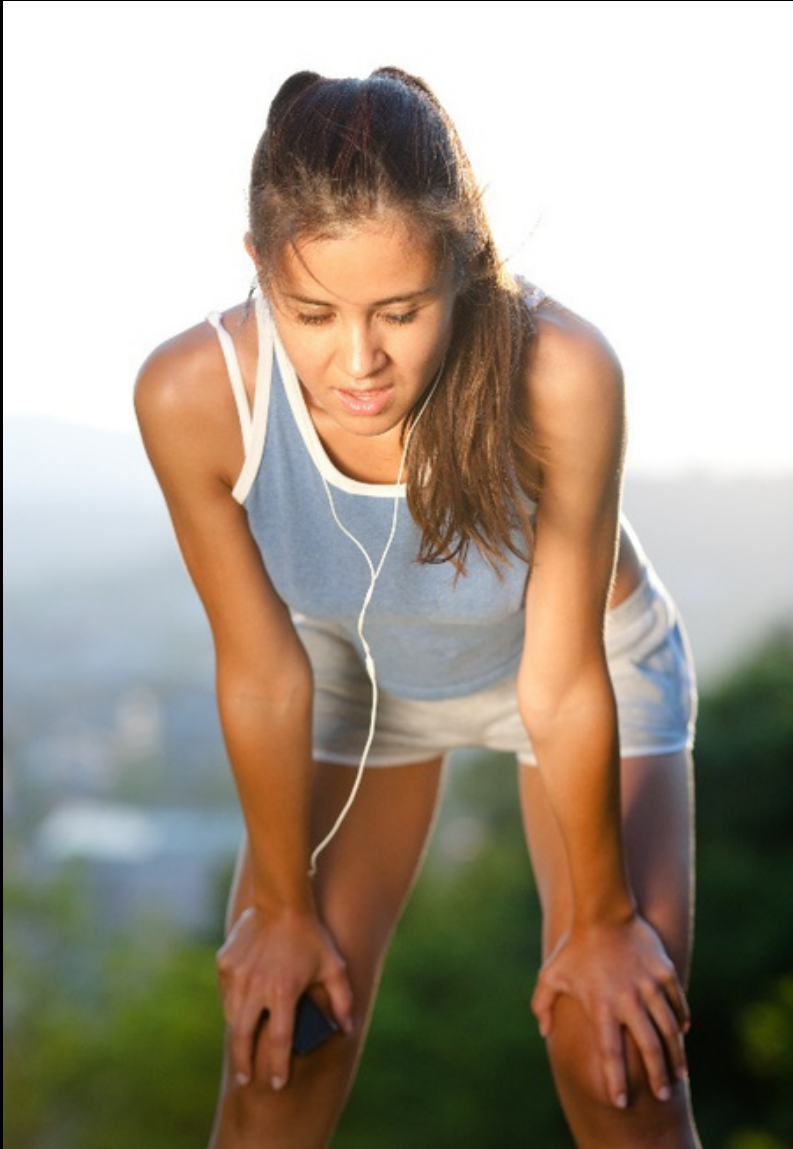


Activity

- How would you know when to regress a training programme?
-
- How would you regress?



When and how to regress



When?

- Client not coping
- Non-adherence
- Signs of overtraining

How?

- Frequency – less often
- Intensity – less challenge
- Time – shorter duration
- Type – different mode
- Increase rest or recovery time



Modification, adaptation and progression

Modification and adaptation:

- Make minor changes to accommodate individual needs

Progression:

- Make exercises harder, offer challenge

Modifications may include:

- Exercise position, support/balance, equipment/machine, range of motion, repetitions, resistance, levers, speed, etc.



Speed of exercise

Slower

- Stricter posture and more accurate alignment
- Muscle undergoing contraction for longer
- Increase time under tension (concentric or eccentric phase)
- Increases work of fixator muscles

Faster

- Could increase injury risk
- Could lead to incorrect posture and alignment
- Increase of intensity related to heart rate and demand on energy systems (anaerobic)
- Could be used to develop muscular power



Levers, gravity and resistance

Increased resistance

- Increase exercise intensity
- Reduce speed of movement

Gravity

- Speed and control of eccentric movements
- Working with gravity will reduce intensity/resistance
- Assist some stretch positions
- Decrease weight bearing, for example, water-based exercise

Lever length

- Speed of movement
- Intensity
- Range of motion





Learning check

- Explain how speed can be used to modify an exercise session
- Describe the principle of reversibility
- Outline three safety considerations for antenatal clients
- Outline the aims of the warm up
- Identify three free weight and three resistance exercises to develop muscular fitness





USP185 – Planning and instructing gym-based exercise programmes

LO3 Know how to instruct, supervise and review gym-based exercise

Content and Assessment Criteria

- Know the structure and content of a gym-based exercise session
- Know safe and effective alignment and technique for exercise positions
- Know instructional and communication skills required to observe and supervise clients
- Know different methods of monitoring exercise intensity and the limitations and benefits of using each method when working with clients
- Know methods of adapting a gym-based exercise programme to meet diverse client needs
- Know how to conduct routine maintenance and cleaning requirements in the gym-based environment
- Know how to end and review a session with a client
- Know ways to improve professional practice





Activity

What should the structure and content of a gym-based exercise session look like?



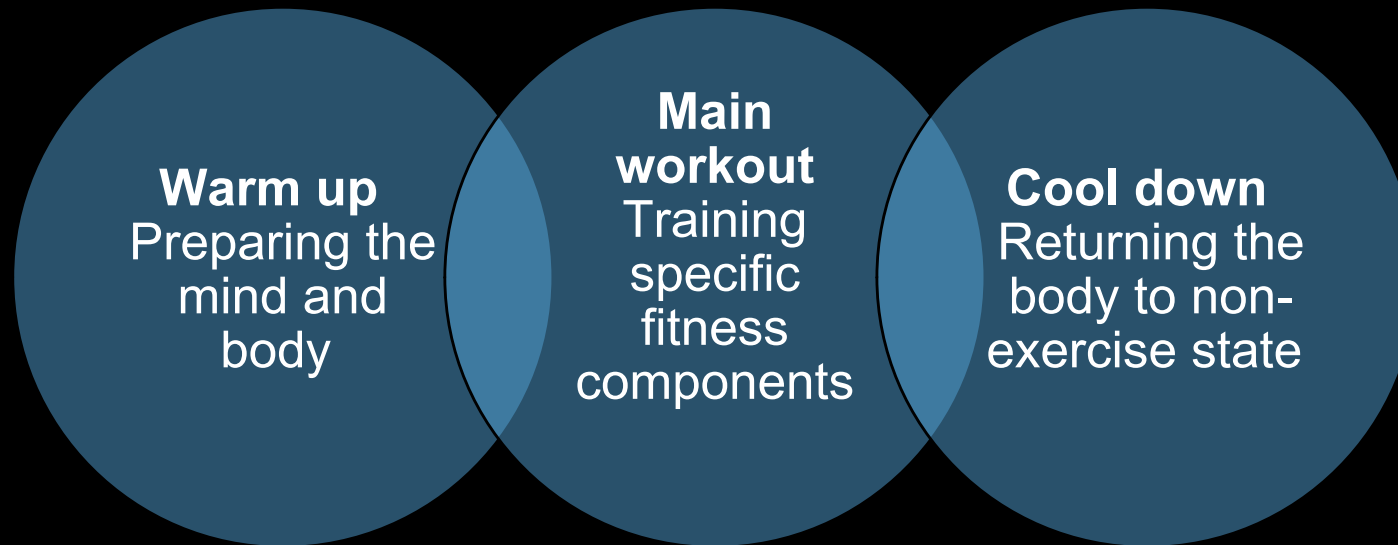
Client information

- **Exercise choices**
 - Components of fitness
 - Components of the session
 - Client likes/dislikes
- **Session structure**
 - CV component
 - Resistance component
 - Circuit style sessions (if applicable)
- **Exercise adaptations and modifications**
 - Pre-screening/health status/contra-indications
 - Environment
 - Client goals



Planning gym-based exercise

Session structure





Activity

Think about why it is important to ensure safe and effective alignment and technique when instructing gym-based exercise sessions.



What to consider

- **Correct alignment**
 - Neutral spine
 - Joint position (according to exercise or fixed machine position)
 - Locking of joints/unintended movements
 - Postural considerations during exercises
- **Fixed machine adjustments**
 - Weight stack
 - Seat and other adjustments
 - Joint positioning for effectiveness and safety
- **Instruction and teaching points**
 - Use of NAMSAT or other instructional techniques
 - Effective positioning for observation of technique



Building client coordination

- Use teaching sequence
- Break down moves
- Complex lifts – isolate stages, for example, the clean
- Perform without equipment first
- Reinforce safe and effective technique
- Praise and encourage



NAMSET – Instruction sequence

N

- **Name** the exercise

A

- **Area** of the body worked

M

- **Muscles** working

S

- **Silent** demo (if required, for example, complex movements)

E

- **Explain** and demonstrate the key adjustments and teaching points

T

- **Teach** – talk the client into position and reinforce teaching points



NAMSET – Instruction sequence

I

- **Introduce** the exercise – exercise name, purpose and muscles used

D

- **Demonstrate** the exercise – silent or speaking, use safe and effective alignment and controlled speed

E

- **Explain** the adjustments and key teaching points

A

- **Activate** – ask client to practise, observe and reinforce teaching points



Demonstrations

- See and be seen
- Show exercises from different angles
- Ask client(s) to move if necessary
- Use correct posture and alignment
- Explain and visually reinforce posture, for example, point to moving areas and explain correct alignment



Observation

- Observe clients from different directions
- If working with groups, need to see all
- Check:
 - Posture
 - Joint alignment
 - Intensity – any over exertion, for example, changes in skin colour, signs of discomfort
- Reinforce teaching points
- Offer modification
- Praise effective technique



Monitoring intensity

- Observation
- Look for changes to:
 - Posture, alignment, exercise technique
 - Coordination
 - Facial expressions (discomfort, pain)
 - Skin colour (pallor around the lips)
 - Sweating
- Limitations:
 - Subjective
 - Need observation skills
 - General signs of fatigue



The talk test

A method of identifying how hard a client is working.

- **Light**
able to speak easily and light breathing, increased heart rate
- **Moderate**
speaking comfortably, deeper and quicker breathing
- **Vigorous**
speaking more difficult, breathing much deeper and heavier, at high levels of intensity – shortness of breath, an inability to carry on a conversation



Rating of perceived exertion (RPE)

See handout on student zone

Two scales:

- **Original scale** – 6 to 20
 - Corresponds to heart rates ranging from 60-200 bpm
 - Aerobic work between 12 and 13
- **Modified CR10 scale** – 0 to 10
 - More user-friendly approach
 - Aerobic work between 4 and 7



RPE 6-20 scale

Heart rate	RPE	Classification
60-80 bpm	6-8	Nothing
< 90 bpm	< 9	Very light
~ 100-110 bpm	10-11	Light
~ 120-130 bpm	12-13	Moderate
~ 140-160 bpm	14-16	Heavy
> 160 bpm	> 16	Very heavy



RPE 0-10 scale

Nothing	0	Warm-up/cool-down
Very, very weak	0.5	
Very weak	1	
Weak	2	
Moderate	3	
Somewhat hard	4	Aerobic zone
	5	
Strong	6	
Very hard	7	
Very, very hard	8	High-intensity intervals – anaerobic zone
	9	



Heart rate monitoring

- Manual pulse monitoring – wrist or neck
 - Heart rate monitor
- Maximal heart rate (MHR or HR max) equation:**
- 220 beats per minute (bpm) minus age (220 – age)
Target heart rate (THR) around 50-90% of MHR depending on fitness



Target heart rate (THR)

- 50-90% of MHR
- **Calculated by multiplying the MHR by percentage:**
 - x 0.5 (50% THR) – lower THR zone
 - X 0.6 (60% THR)
 - X 0.7 (70% THR)
 - X 0.8 (80% THR)
 - X 0.9 (90% THR) – upper THR zone



Different methods of adapting

- Resistance, repetitions, sets and rest
- Training approach, for example, single or multiple sets, continuous or fartlek
- Equipment, for example, fixed machines or free-weights, use of different CV machines
- Machine variables, for example, speed, level, resistance
- FITT principles
- Special populations (see LO2 slides)



Demonstrating appropriate customer care

- Positive image of self – timekeeping, dress, hygiene, appearance, communication, professional behaviour
- Positive image of organisation – working relationship with colleagues, quality of customer care, branded uniform, promoting service level agreement
- Working relationship with clients – ethical, mutual respect and trust, maintain professional boundaries, fairness and equality
- Working relationship with colleagues – spotters, assistants, managers, other professionals
- Providing information on other services to meet client needs, for example, group exercise



Routine maintenance and cleaning

- **Cleaning substances and equipment**
 - The range of substances that may be used for cleaning and how these must be used and stored, for example, anti-bacterial sprays, disinfectants/bleach
 - Equipment to include – cloths, paper tissues, mops, buckets, protective gloves etc.
- **Safe working practices**
 - Standard operating procedures for routine cleaning and maintenance, for example, cleaning schedules, rotas, recording
 - Safety of self and others – control of substances hazardous to health (COSHH), safe storage of cleaning equipment, use of signs to minimise risks of slips, appropriate manual handling
 - Use of personal protective equipment (PPE)



Routine maintenance and cleaning

- **Waste management**
 - Awareness of different types of waste and how to dispose of them
 - Hazardous and non-hazardous waste
 - Organisation policy for managing waste





Activity

When finishing a gym-based exercise session, what do you include?



Key guidelines

- Appropriate to client's needs
- Appropriate cool down exercises/component
- How to leave the environment in an acceptable and professional manner
- Reviewing the session
 - Methods of reviewing
 - Type of information gathered from the client
- Providing feedback to clients
- Using effective communication skills to maintain client care
- Self evaluation and reflection



Value of reflective practice

- Reflecting on areas for improvement
- Develop skills and knowledge
- Career development
- Create action plan
- Continuing professional development
- Meet client needs
- Enhance reputation as instructor
- Enhance reputation of industry sector





Learning check

- Outline two reasons why it is important to conduct CPD
- Outline the advantages of using open questions to review a session
- Explain why it is important to include routine maintenance and cleaning of your working environment
- Describe two ways in which you can adapt a gym-based exercise session
- Describe one advantage and one disadvantage of using HR monitors to monitor intensity
- Explain the importance of using NAMSAT or IDEA
- Explain the importance of monitoring neutral spine during resistance exercises





VTCT

USP185 – Planning and instructing gym-based exercise programmes

- LO4 Be able to consult with clients and collect information to plan gym-based exercise
- LO5 Be able to prepare self, clients and equipment for gym-based exercise
- LO6 Be able to instruct and supervise gym-based exercise
- LO7 Be able to review gym-based exercise sessions and reflect on their own performance

Content and Assessment Criteria

- Be able to consult with clients and collect information to plan gym-based exercise (see PowerPoint USP184 LO5&6)
- Be able to prepare self, clients and equipment for gym-based exercise
 - Checking and preparing environment, equipment and self and minimise risks
 - Verbally screening the client and checking their readiness to participate
 - Inducting the client to gym-based exercises and equipment



Content and Assessment Criteria

- Be able to instruct and supervise gym-based exercise
 - Instructing a safe and effective warm up and cool down appropriate to the client, programme and environment needs
 - Instructing safe and effective cardiovascular and resistance programs that are appropriate to the client, programme and environment needs
 - Demonstrating instructional and communication skills to support and motivate the client
 - Monitoring exercise safety and intensity and responding to client needs and feedback
 - Leave the environment in acceptable condition for other users



Content and Assessment Criteria

- Be able to review gym-based exercise sessions and reflect on their own performance
 - Gathering information from the client to review the gym-based session
 - Evaluating client feedback and personal performance to reflect on the gym-based session





Activity

- How can you ensure you select equipment appropriate to client needs?



Select appropriate equipment

- Check client records, for example, goals, fitness and skill level
- Check availability of equipment
- Cardiovascular machines
 - Resistance machines
 - Free weights
- Identify alternative equipment, for example, if equipment in use or not available
- Identify alternative equipment to accommodate changing client needs, for example, progression, regression





Activity

Compile a gym-based exercise programme covering all the components of fitness to meet a client's needs. The plan must include the following information: (see programme card template pm student zone)

Warm up

- CV
- Mobility
- Intensity and duration

Resistance component

- Exercise
- Teaching points
- Sets and rep ranges
- Rest intervals

CV component

- FITT

Cool down

- CV
- Intensity and duration
- stretches





Activity

Think about how you could prepare the environment and equipment as appropriate to client needs?

For example:

- Newcomer to exercise who is anxious about using gym
- Experienced exerciser who is new to this gym environment
- Client who is conscious about body image, for example, overweight
- Recently pregnant woman who is seeking modifications to programme



Preparing environment and equipment

- Check temperature
- Check working space
- Health and safety and risk assessment checks
- Other gym users, for example, how many?
- Access to quiet areas, if needed
- Noise, for example, music system





Activity

Once you have completed the previous tasks, conduct a whole gym induction, based on your programme, including the following:

- Warm up
- Main session
 - Resistance component
 - CV component
- Cool down

After the session complete the following:

- Gather feedback from the client on the session
- Evaluate client feedback and reflect on areas for improvement

