Planning exercise referral programmes

LO: How to prepare for exercise referral

Assessment criteria

1. Describe a range of resources required to deliver exercise referral programmes for individuals and groups, including:
   - environment for the session
   - portable equipment
   - fixed equipment

2. Explain how to work in environments that are not specifically designed for exercise/physical activity

Activity

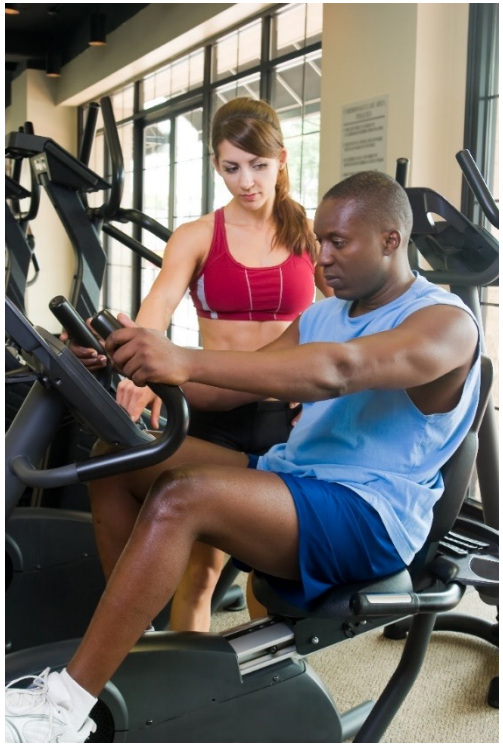
What resources would be required to deliver exercise referral programmes for individuals and groups?

Consider:

- environment for the session
- portable equipment
- fixed equipment

Environments

- Leisure centre
- GP surgery
- Community hall
- Client home
- Gym
- Outdoor area, e.g. park
- Swimming pool
- Dance studio



Which environments are specifically designed for exercise?

Resources

Will depend on setting:

Gym or leisure facility:

- CV machines
- Resistance machines
- Free weights

Swimming pool:

- Woggles
- Waterbells
- Gloves and paddles
- Floats

Community or home settings

- Bands, hand weights
- Steps
- Stability equipment
- Chairs

Instructors

Team of instructors working on a check must be qualified to instruct a range of specific activities to meet different client needs:

- Gym-based
- Pool based
- Studio based
- Outdoors

And qualified to work with specific conditions:

- Exercise referral
- Older adults
- Disabled adults
- Specialist conditions
  - Falls
  - Cardiac rehab
  - Mental health
  - Low back pain
  - Obesity and diabetes

Activity

What would need to be considered before working in environments that are not specifically designed for exercise/physical activity?

Environment considerations

- Check organisation procedures, e.g. health and safety or devise own, e.g. for clients home
- Personal insurance and centre insurance
- Conduct risk assessment of environment
    - Space, e.g. for number of clients
    - Temperature or weather if an outdoor environment
    - Floor surface
    - Accessibility
    - Availability of drinking water
- Nearest telephone and emergency contact numbers
- Availability of first aider and first aid kits
- Emergency exits, emergency contacts

Client considerations

- Check screening records
- Verbal screening at all sessions
- Check they have medication, e.g. asthma inhalers
    - Instructor can carry these or place in safe location
    - Client administers own medication
- Appropriate time of day for their condition
- Some conditions less symptomatic later in the day, e.g. respiratory
- Less crowded environments help some conditions, e.g. anxiety

Equipment considerations

- Health, safety, hygiene and maintenance of equipment
- Appropriate amount of equipment for number of users, e.g. mats, handweights
- Induction or training required to use equipment
- Any technical skills to operate or use equipment
- Any base level of fitness required to use equipment
- Level of supervision required
- Portability of equipment if moving between locations
- Cost of equipment

Learning check

1. Describe a range of resources required to deliver exercise referral programmes for individuals and groups, including:
   - environment for the session
   - portable equipment
   - fixed equipment

2. Explain how to work in environments that are not specifically designed for exercise/physical activity

Planning exercise referral programmes

LO: The importance of long term behaviour change for exercise referral

Assessment criteria

- Explain why it is important for clients/patients to understand the health benefits of structured exercise referral programmes
- Explain why it is important for an exercise referral instructor to work together with clients/patients to agree goals, objectives, programmes and adaptations
- Explain the importance of long-term behaviour change in developing clients'/patients' health and fitness
- Explain how to encourage clients/patients to commit themselves to long term change

Activity

- What are the health benefits for structured exercise referral programmes?

Health benefits

- Reduce the risk of developing coronary heart disease (CHD), stroke, diabetes and some cancers
- Reduce the risk of low back pain
- Improve bone density
- Reduce stress and anxiety
- Reduce the risk of depression
- Increase independence in older people
- Reduce the risk of osteoporosis
- Reduce the risk of falls in older adults

(Department of Health, 2011)

Health benefits

- Improve psychological wellbeing
- Maintain and improve functional capacity
- Improve quality of life and general wellbeing
- Assist weight loss and weight management
- Reduce the risk of obesity
- Reduce the risk of premature death

(Department of Health, 2011).

Activity

What are the recommended guidelines for physical activity?

Physical activity guidelines

For adults (18 to 65) to maintain health:

- 150 minutes of moderate-intensity activities every week, *e.g. 5 days a week, 30 minutes.*

Or

- 75 minutes of vigorous-intensity activities, e.g. *3 days a week for at least 20 minutes.*

Or

- A combination of both moderate and vigorous activities.

Plus

- A minimum of two days a week of muscular fitness.

- Plus balance activities for older adults (65+)

ACSM, 2014, DH, 2011.

Physical activity

The key messages are:

- Sit down less
- Move more often

Physical activity

Any movement of the body that increases energy expenditure above resting level is considered to be a physical activity.

Physical activities includes:

- Activities of daily living (ADLs), e.g. vigorous housework, walking the dog, shopping, gardening
- Active leisure, e.g. going to the gym, attending an exercise class, cycling, swimming or jogging
- Sport, e.g. tennis, horse riding, rugby, hockey, badminton or football

Activity

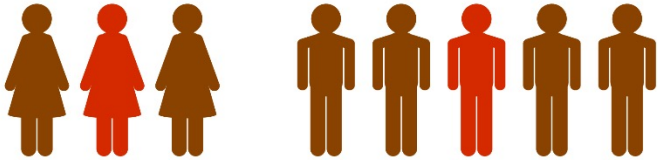
What effect may physical activity have on the causes of the following diseases?

- Coronary heart disease
- Some cancers
- Type 2 diabetes
- Hypertension
- Obesity
- Osteoporosis

Effects of physical activity

Osteoporosis	Increased bone formation Improved bone mass and density Improved posture Reduced risk of injury

Osteoporosis



1 in 3 women and **1** in 5 men over 50 will experience osteoporosis fracture

Risk

Genetic susceptibility

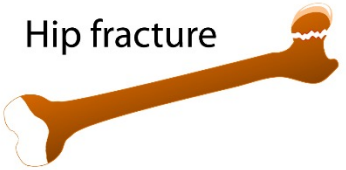
Inactive lifestyle

Age (over 45)

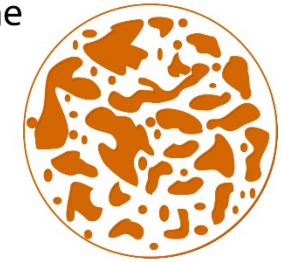
Insufficient mass

Growth

Hip fracture

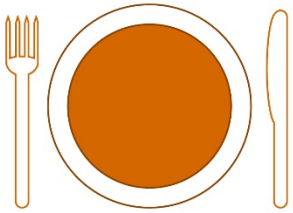


Normal bone



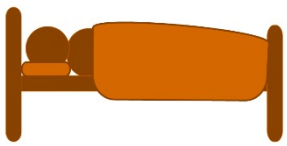
Osteoporosis

Prevention and treatment

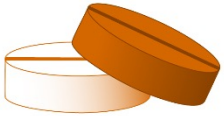


Diet

Dairy products



Restful sleep



Calcium and Vitamin D

Limit coffee

Stop smoking

Limit alcohol

Effects of physical activity

Some cancers	Reduced risk of colon cancer Reduced stress Other healthier lifestyle choices may reduced other contributory factors for some cancers
Mental health	Improved mood Increased dopamine and endorphins Increased feel good factor and sense of well-being Assists management of stress and anxiety

Effects of physical activity

Coronary heart disease	Reduced blood pressure Improved blood cholesterol profile Improved elasticity of blood vessels Improved capillarisation and blood flow
Hypertension	Reduced blood pressure Improved blood flow distribution Improved elasticity of blood vessels Reduced muscular tension Reduced stress level

Effects of physical activity

Type 2 diabetes	Improved regulation of insulin Improved blood glucose regulation
Obesity	Improved fat metabolism Increased calorie expenditure Assist weight management

Activity

- Why is important for clients/patients to understand these health benefits?

The importance of clients understanding these benefits

- Help them make informed lifestyle behaviour choices
- Increase their knowledge of the benefits of being activity
- Help them to identify potential gains
- Promote engagement and develop interest
- Assist identification of goals
- Promote longer term commitment

Activity

Why it is important to work with clients to agree goals, objectives, programmes and adaptations?

The importance of agreeing goals and programmes

- Shared responsibility
- Promote client involvement and commitment
- Ensure client needs are central to the process
- Client-centred approach
- Ensure clients make Informed choices
- Improve client understanding
- Offer freedom and flexibility in programme design
- Increase motivation
- Promote adherence
- Monitor client progress

Activity

Why is long term change important?

What are some of the barriers to change?

The importance of long term change

Maintain health improvements

Improve local and national health targets and reduce NHS expenditure

Independence

Lifespan

Reduce over-reliance on medication, e.g. for appropriate conditions (back pain)

Quality of life and well-being

Active ageing

Reduce deterioration of health

Sustainable health

Barriers

Often multiple barriers

Not one single barrier

Individual factors, e.g. age, gender

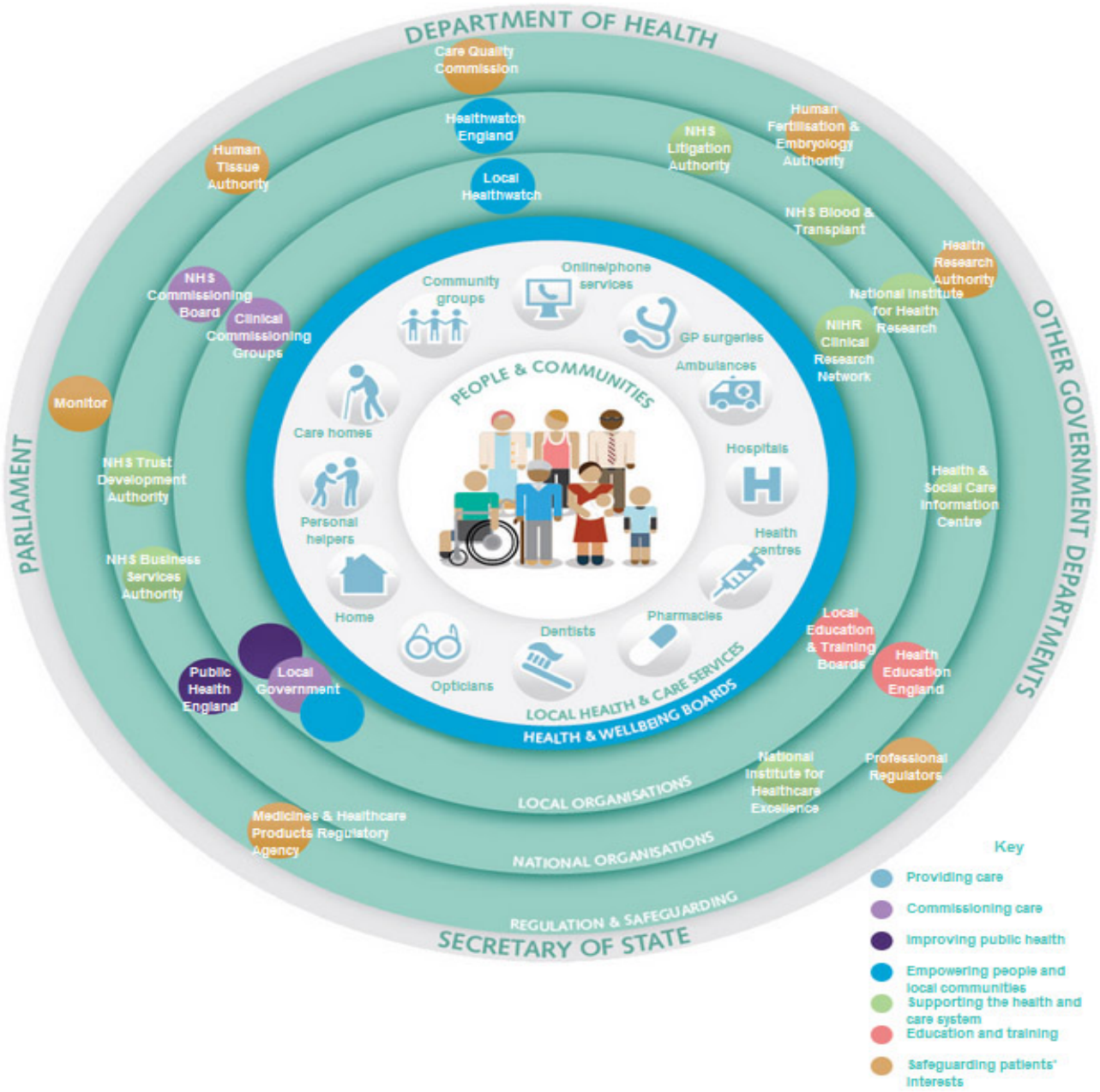
- Activity reported to decline with age
- Women reported less active than men
- Psychological factors, e.g. low self-esteem

Social factors

- Cultural beliefs, e.g. if activity not part of culture
- Availability and accessibility of resources, e.g. live in rural area
- Socio-economic status, e.g. unemployment, low income
- Role modelling, e.g. peers and family inactive
- Social pressure, e.g. other commitments (work, family)
- Education, e.g. unaware of risks of inactivity

Activity

How can clients be encouraged to commit to long term change?



Whole system approach with clients at the centre

Commitment to change

- Policy and strategy
- Health promotion, e.g. change4life
- Education for Informed choice
- Available resources, e.g. smoking cessation
- Community engagement and support systems, e.g. family
- Client-centred working (no blaming or shaming)
- Support and encourage and affirm positive actions
- Build motivation, e.g. use motivational interview to facilitate change talk
- Explore ways to manage barriers
- SMART goals

Learning check

- Explain why it is important for clients/patients to understand the health benefits of structured exercise referral programmes
- Explain why it is important for an exercise referral instructor to work together with clients/patients to agree goals, objectives, programmes and adaptations
- Explain the importance of long-term behaviour change in developing clients'/patients' health and fitness
- Explain how to encourage clients/patients to commit themselves to long term change

Planning exercise referral programmes

LO: Collecting information for planning

Assessment criteria

Knowledge

1. Explain the principles of informed consent

2. Summarise the client/patient information that should be collected when designing an exercise referral programme

3. Explain how to select the most appropriate methods of collecting client/patient information according to client/patient need

4. Explain how to interpret information collected from the client/patient in order to identify client/patient needs and goals

5. Explain the legal and ethical implications of collecting client/patient information

Assessment criteria

Skills

1. Establish a rapport with client/patient s

2. Explain own role and responsibilities to client/patient s

3. Collect the information needed to plan an exercise referral programme using methods appropriate to the client/patient s and their condition/s

4. Show sensitivity and empathy to client/patient s and the information they provide

5. Record the information using appropriate formats in a way that will aid analysis

6. Treat confidential information correctly

Activity

What is informed consent?

Why is it needed?

Informed consent

- Essential requirement prior to any physical assessments and exercise programme participation
- Signed and dated record
- Legal record, should be checked by legal professionals

- *To give consent, clients need to be fully informed!*

Activity

What information would need to be explained as part of informed consent process?

Informed consent

- The purpose of the physical measurement/assessment or exercise programme
- An outline of what will happen and reasons, e.g. a warm up to…..
- The benefits
- Any potential risks, e.g. fainting, cardiac incident
- What the instructor has done or will do to ensure safety, e.g. PAR-Q.
- Any discomforts, e.g. feel hot and sweaty
- The client responsibilities, e.g. 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

Activity

What client information needs to be collected?

Why is it needed?

Professional operational standards (JCF. 2011)

- Personal information - Age, gender, ethnicity (from transfer records)
- Height, weight and BMI
- Waist circumference
- Pre-exercise heart rate and blood pressure
- Physical activity levels (using IPAQ or 7 day recall)
- Quality of life (using EQ-5D)
- Joint range of movement
- Any other measurements requested by the referring health professional

Other information

- Medical history and presenting conditions
- Medications
- Reason for referral
- Activity likes and dislikes
- Lifestyle and habits, e.g. time available, diet, smoking, etc.
- Social and psychological information
- Goals

Purpose of information

- To identify client needs and wants
- To ensure client participation is safe
- To reduce risk, e.g. signpost back to GP, if needed
- To maximise effectiveness of the programme designed
- To tailor programme design to meet client needs
- To meet industry codes of professional practice

Activity

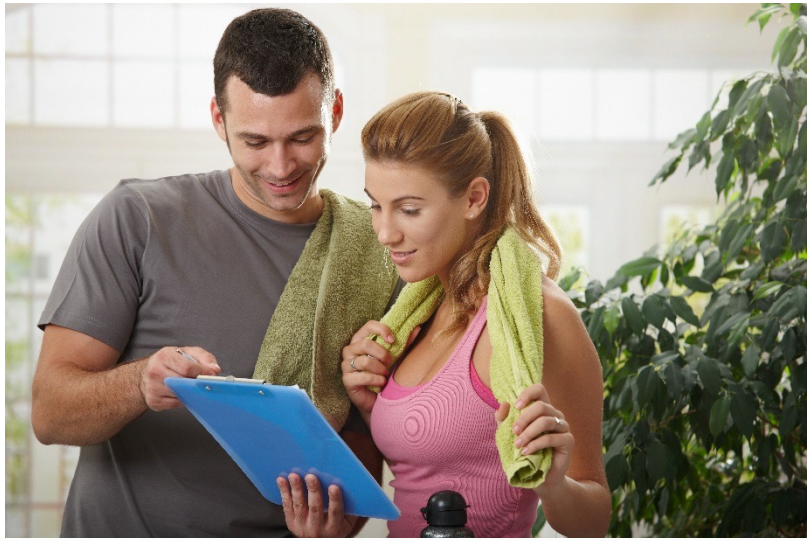
How would you gather the different information from clients?

Always follow scheme protocols

Methods

- Transfer records provided by GP
- PAR-Q/PARmedX other questionnaires
- Verbal questions/consultation
- Physical measurements and assessments
- Observation

Methods must be appropriate for client needs



Transferred records from GP

- Client's personal details (name, age, gender, etc.)
- Reason for referral
- Summary of past and present medical history
- Medications or other treatments
- Risk stratification
- Other important information (language, religious or cultural needs)
- Client's preferred method of contact
- Health measurements (blood pressure, BMI)
- PAR-Q/PARmedX
- Informed consent

Client needs to be considered

- Medical conditions
- Medication
- Age and gender
- Visual or hearing impaired
- Language spoken
- Physical limitations or disabilities

Modification may be needed to the methods used to gather information, e.g.

- Written resources available in other languages
- Physical assessments modified (if used)
- Use of oral questions instead of written

PAR-Q/PARmedX

- 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 and immediate method
- Permanent record
- Information has to be checked and updated
- PARmedX used for exercise referral
- CSEP website provides questionnaire and clearance letter

Verbal questions – consultation

- To identify change and sustain talk
- To explore likes, dislikes, goals, lifestyle
- To explore barriers to activity and support systems
- Readiness to exercise and motivation
- Conversational approach
- Builds rapport – can get to know client
- Can probe and ask for more information
- Need effective conversation and questioning skills
- Need private area for consultations

Consultation approach

- Use private area for consultations
- Use effective conversation and questioning skills to build rapport and facilitate conversation
- Explain and clarify own role and responsibilities
- Listen to the client and show sensitivity and empathy to the information they provide
- Record information using appropriate formats to aid analysis
- Treat confidential information correctly

Observation

- Can observe – clothing and footwear, posture, gender, height, weight, gait, fat storage, body language

- Immediate assessment

- Cannot observe some things, e.g. medical conditions

Static posture

Side view

Plumb line:

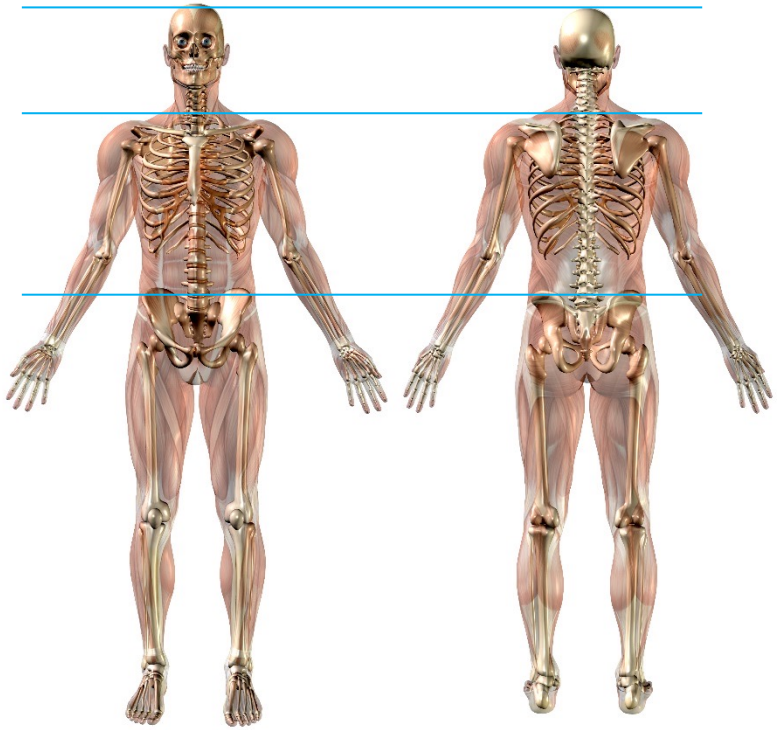
- Anterior to lateral malleolus (ankle)
- Midline of knee
- Greater trochanter (hip)
- Pelvis – ASIS and PSIS
- Lumbar spine
- Thoracic spine
- Midline shoulder (acromion process)
- Ear lobe
- Crown of head

Static posture

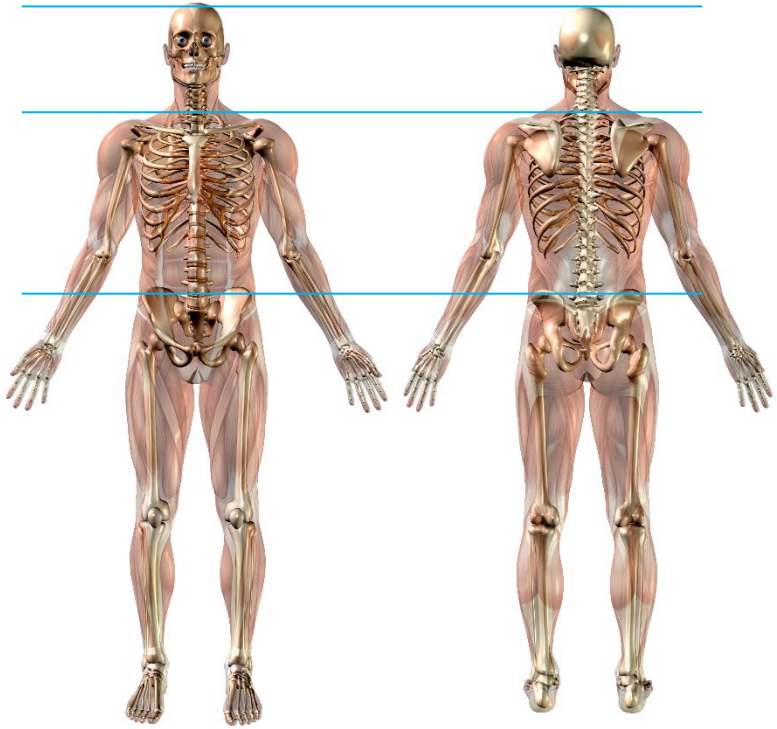
Posterior.

Check symmetry:

- Head
- Shoulders
- Waist creases
- Hips
- Feet turn out
- Muscle bulk
- Arch of foot-supinated/pronated



Static posture

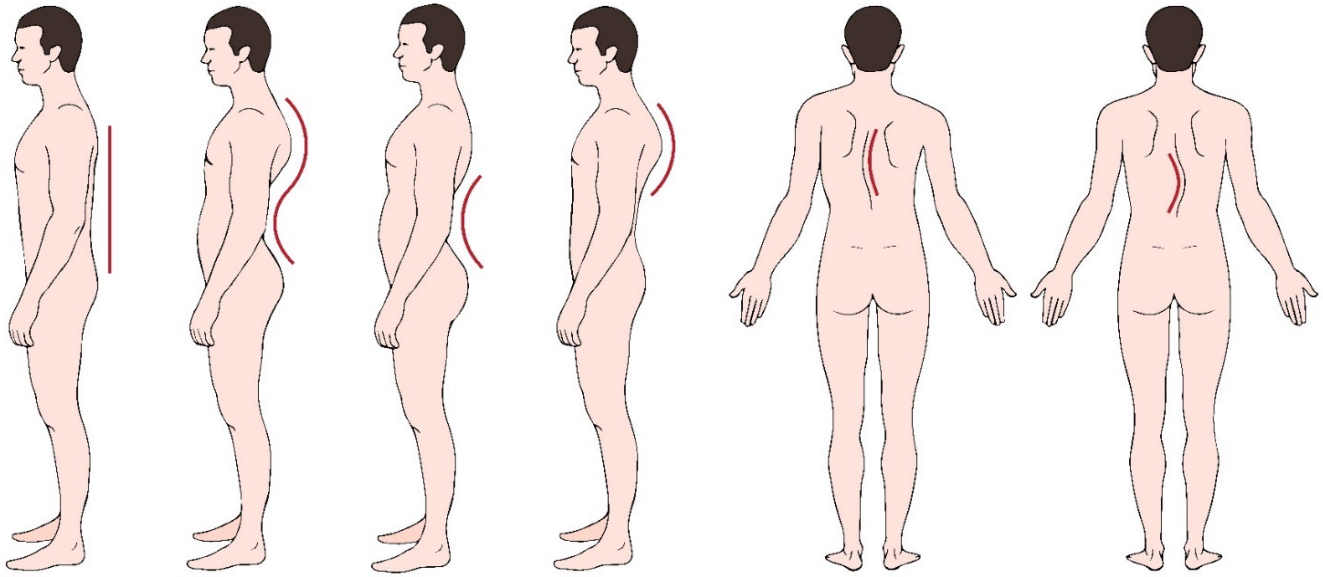


Anterior.

Check symmetry:

- Head
- Shoulders
- Hips
- Knee over 2nd/3rd toe
- Feet turned out
- Arch of foot - supinated/pronated

Posture deviations



Flatback	Hyper kyphosis Hyper lordosis	Hyper lordosis	Hyper kyphosis	Scoliosis	Scoliosis

Physical health measures

Health

- Pre-exercise heart rate
- Pre-exercise blood pressure
- Body Mass Index (BMI)
- Posture, e.g. plumb line
- Body fat measurements
- Anthropometric measures, e.g. waist circumference

Heart rate

Heart rate

- Measures the number of heart beats every minute
- Average resting heart rate – 70 beats per minute (bpm)
- Resting heart rate taken after a long sleep or rest
- Contra-indication: Resting heart rate (100 bpm)

Method:

- Let the client rest for 5 to 10 minutes (e.g. seated, no exertion)
- Use tips of middle and index finger to locate the radial artery.
- Find the pulse
- Count pulse for 60 seconds
- Record the result
- Repeat to check

Blood pressure

Blood pressure

- Pressure of blood on heart and blood vessels.
- Average – 120/80 systolic – diastolic
- Stage 1 hypertension – 140/90 systolic – diastolic
- Contraindications = Blood pressure (180/110)

Method:

- Let the client rest for 5 to 10 minutes (e.g. seated, no exertion)
- Position ambulatory cuff
- Inflate
- Record the result
- Repeat to check

Blood pressure

Classification category	Systolic (mmHg)	Diastolic (mmHg)
Normal	< 120	< 80
Prehypertension	120-139	80-89
Stage 1 hypertension	140-159	90-99
Stage 2 hypertension	160-179	100-109

ACSM (2014,p46)

Body weight and composition

Body mass index

- Assess obesity and CVD risk
- Need clients weight and height to calculate
- Contra-indication: BMI (above 30)

Calculation:

$$\text{BMI} = \frac{\text{Weight in kg}}{\text{Height in m}^2}$$

BMI classifications

BMI (kg/m2)	Description
<18.5	Underweight
18.5 to 25	Normal
25-30	Overweight
>30	Obese I
> 35	Obese II
>40	Morbidly obese III

Source:

World Health Organisation (WHO) 2004.

National Institute for Health and Care Excellence (NICE) 2007.

Physical measurements

- Fitness assessments:
  - Cardiovascular fitness
  - Muscular fitness - strength or endurance
  - Flexibility & range of movement
  - Motor skills, e.g. balance
- Functional assessments, e.g. sit to stand

Not always relevant or appropriate for exercise referral

Physical measurements

Considerations:

- Not all assessments are appropriate for all clients, e.g. inactive, overweight, medical conditions.

- Some assessments are too invasive, e.g. body fat calipers.

- Validity and reliability of information gathered:

    - How useful is information?
    - Is it necessary?
    - How are assessments conducted?
    - Equipment, e.g. calibration.
    - Validity of information.
    - Norm tables.

Functional assessments

Can help to identify how dysfunctions impact client's movement in daily life or when participating in exercise or sport.

Observe specific movements, e.g.

- Sit to stand from a chair
- Walking – stride length, pelvic action
- Climbing stairs
- Performing specific actions, e.g. lifestyle movement, joint action
- Reaching between shoulder blades

Activity

How may client information impact planning?

Using information

All client information should be analysed to ensure safe and effective exercise is planned.

Age, gender and ethnicity – consider:

- Any risk of falls, e.g. frail older adults
- Any mobility issues
- Culturally diverse activities available?
- Single sex activities available, e.g. some religions/beliefs

Socio-economic status may affect access, affordability – consider:

- Are there any subsidised activities?
- What community activities/groups are available
- Any funding support?

Individual factors will influence programme design, goals set and equipment used – consider:

- Frequency
- Intensity
- Time
- Type
- Structure and content of exercise sessions

Using information

Client information will determine the:

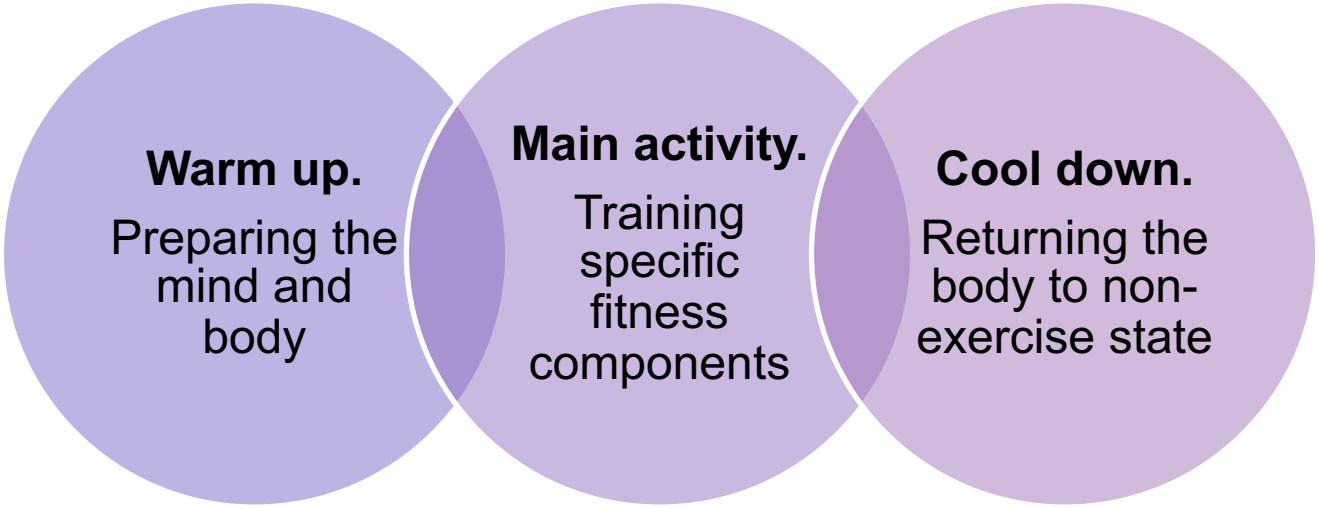
- The instructor skills and type of session, e.g. Pilates, aqua.
- Session structure.
  - Content, intensity and duration of warm up and cool down.
  - Content, intensity and duration of main workout.
- The components of fitness selected, e.g. cardio, flexibility, muscular.
- The equipment used.
- The environment used.

Using information

Client information will determine the:

- The frequency of exercise
- The intensity of exercise:
  - Repetitions, sets and rest
  - Resistance, rate, range of motion
- The duration of exercise
- The type of exercises, e.g. complexity
- The level of weight bearing, e.g. seated, water-based

Session structure



Consider: Duration, intensity, type of exercises in each component to met needs of individual and medical condition(s).

Activity

What are the legal and ethical implications associated with collecting client information?

Confidentiality and data protection

- Follow guidance of legislation
- Share information on a ‘need to know’ basis
- Store data securely (data protection legislation).
  - Paper records - locked files
  - Electronic records - secure systems/passwords
  - No disclosure to third parties
  - Transfer information securely
  - Use information for intended purpose only!
  - Maintain records for the required duration
  - Dispose of records securely

Reasons for breaching confidentiality

- Any risk of harm to self or others
  - Not compliant with medication
  - Suicide risk
  - Self harm

Maintain boundaries by:

- Explain ethical and legal boundaries, e.g. confidentiality and when this would need to be breached during initial consultation
- Inform client information will need to be passed on
- Record all information

Learning check

Knowledge

1. Explain the principles of informed consent

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4. Explain how to interpret information collected from the client/patient in order to identify client/patient needs and goals

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Learning check

Skills

1. Establish a rapport with client/patient

2. Explain own role and responsibilities to client/patient

3. Collect the information needed to plan an exercise referral programme using methods appropriate to the client/patient and their condition/s

4. Show sensitivity and empathy to client/patient and the information they provide

5. Record the information using appropriate formats in a way that will aid analysis

6. Treat confidential information correctly

Planning exercise referral programmes

LO: Identifying and agreeing health-related fitness goals

Assessment criteria

Knowledge

- Explain how to identify clients'/patients' short, medium and long term goals
- Identify when exercise referral instructors should involve others, apart from their clients/patients in goal setting
- Explain how to use specific, measurable, achievable, realistic and time bound (SMART) objectives in an exercise referral programme

Skills

- Work with clients/patients to agree short, medium and long-term goal appropriate to their needs
- Ensure the goals are:
  - Specific, measurable, achievable, realistic and time bound
  - Consistent with industry good practice
- Agree with patients their needs and readiness to participate

Activity

- How would you identify client goals?
- What may be an example of some client goals?

How to identify goals

- Consultation
- Use of motivational interviewing
- Ask what they would hope to achieve
- Listen
- Observe body language and facial expressions when client is speaking to identify things that may excite them
- Read between the lines
- Use reflective statements – repeat words and phrases you hear the client say e.g. *'So, something you may hope to achieve would be…'*

Client goals and objectives

May relate to physical activity and lifestyle changes

Can be vague, broad and non-specific:

- Prevent decline in health
- Lose weight
- Manage stress
- Improve health and wellbeing
- Improve quality of life
- Improve posture
- Manage symptoms
- Be more active

Activity

When would it be necessary to involve others with client goals?

When to involve others

- Multi-disciplinary working and holistic care, e.g. carers or support workers, rehabilitation staff
- To assist identification of goals, e.g. GP, nurse, scheme coordinator
- For additional support and motivation, e.g. family and friends
- To build motivation and assist adherence

Activity

How can an exercise referral instructor use specific, measurable, achievable, realistic and time bound (SMART) objectives in an exercise referral programme?

S

M

A

R

T

Goal setting

- Specific, e.g. use an active verb
- Measurable, e.g. frequency or volume that can be monitored
- Achievable, e.g. is it realistically within the clients potential?
- Relevant, e.g. matches client objectives? Motivating?
- Time-bound, e.g. date of achievement stated.

Process focused or outcome focused?

Goals

Short-term	One day to one month.
Medium-term	One month to six months.
Long-term	Six months to several years.

How to use goals

- Targets
- Motivation
- Adaptation
- Regular reviews
- Consult clients
- Monitor progress
- Revise to meet needs:
  - Goal completed early
  - Goal not completed
- Manage lapse or relapse

Behaviour and process goals

Examples:

- To walk for 30 minutes on a specific number of days
- To eat five pieces of fruit and vegetables on three days
- To attend the referral group on 2 days in the next week

Purpose:

- Goals can be tailored as small and achievable ‘bite size chunks’ to meet client needs
- Once achieved and sustained, they may increase motivation towards making further changes

Client readiness for goals

- Use the readiness scale
- Ask open questions to explore there readiness, e.g. how ready do you feel to work towards that goal?
- Ask follow questions to explore client response, e.g. you said you readiness was around level 4, what would you need to move to level 6?
- Why level 4 and not level 3?

0% Not ready

100% Ready

Activity

- Why is it important to review client progress towards goals?

Reviewing goals

It is important to review goals to:

- Check progress
- Identify and address any obstacles to progress
- Identify and celebrate successes
- Provide support and encourage adherence
- Build motivation
- Identify if goals need to be changed, e.g. regressed or new goals set

Actively involve the client in goal setting and review

When to regress goals

It may be necessary to regress goals if:

- The clients condition deteriorates
- There is a change in symptoms or new symptoms present
- The client lapses from the programme

Learning check

Knowledge

- Explain how to identify clients/patients' short, medium and long term goals
- Identify when exercise referral instructors should involve others, apart from their clients/patients in goal setting
- Explain how to use specific, measurable, achievable, realistic and time bound (SMART) objectives in an exercise referral programme

Skills

- Work with clients/patients to agree short, medium and long-term goal appropriate to their needs
- Ensure the goals are:
  - Specific, measurable, achievable, realistic and time bound
  - Consistent with industry good practice
- Agree with patients their needs and readiness to participate

Planning exercise referral programmes

LO: How to plan exercise referral programmes

Assessment criteria

Knowledge:

- Explain the absolute contraindications to exercise
- Summarise the key principles of designing exercise referral programmes to achieve short, medium and long term goals, including the order and structure of sessions
- Describe a range of safe and effective exercises/physical activities to develop: cardiovascular fitness, muscular fitness, flexibility, motor skills, and core stability
- Explain how to include physical activities as part of client's/patient's lifestyle to complement exercise sessions
- Identify when it might be appropriate to share the programme with other professionals

Assessment criteria

Skills:

- Plan specific outcome measures, stages of achievement and exercises/physical activities that are appropriate to clients'/patients' medical condition/s, goals and level of fitness and consistent with accepted good practice
- Ensure appropriate components of fitness are built into the programme
- Apply the principles of training which are appropriate to exercise referral clients/patients and their condition/s to help achieve short, medium and long term goals
- Agree the demands of the programme with clients/patients
- Agree a timetable of sessions with clients/patients
- Agree appropriate evaluation methods and review dates with clients/patients
- Identify the resources needed for the programme, including the use of environments not designed for exercise
- Record plans in a format that will help clients/patients and other professionals involved to implement the programme
- Agree how to maintain contact with exercise referral clients/patients between sessions

Activity

What are the absolute contra-indications for exercise?

Absolute contraindications

- Resting systolic blood pressure ≥ 180mmHg
- Resting diastolic blood pressure ≥ 100mmHg
- Uncontrolled/unstable angina
- Acute uncontrolled psychiatric illness
- Acute systemic disease (such as cancers)
- Unstable or acute heart failure
- New or uncontrolled atrial or ventricular arrhythmias
- Experiences significant drop in BP during exercise
- Experiences pain, dizziness or excessive breathlessness during exertion
- Uncontrolled resting tachycardia ≥ 100 bpm
- Febrile illness (flu or fever)
- Unmanaged pain

Sources:
BACR (2005)
ACSM (2005)
BHFNC Toolkit, (2010)

In Lawrence (2013) *Complete guide to Exercise Referral*

Absolute contraindications

- Recent significant change in a resting ECG, recent myocardial infarction or other acute cardiac event
- Acute myocarditis or pericarditis; suspected or known dissecting aneurysm
- BP drop >20mmHg demonstrated during ETT (*this will not be evident unless client undergoes an exercise stress test or has exercising blood pressure measured)*
- Any unstable, uncontrolled condition (e.g. diabetes)
- Neuromuscular, musculoskeletal or rheumatoid disorders that are exacerbated by exercise
- Acute pulmonary embolus or pulmonary infarction
- Symptomatic severe aortic stenosis
- Other rapidly progressing terminal illness

Sources:
BACR (2005)
ACSM (2005)
BHFNC Toolkit, (2010)

In Lawrence (2013)
Complete guide to Exercise Referral

Activity

What are the key principles for designing referral sessions to achieve client goals?

Key planning principles

- Client information - Medical condition, medication, age, activity levels, any exclusions, goals
- Type of programme, session structure and components of fitness
- FITT – frequency, intensity, time and type
- Adaptations and modifications required
- Other lifestyle activities, e.g. activities of daily living (ADLs)
- Level of support and supervision
- Environment & Equipment, including health and safety
- Other professionals that may need to be involved
- Time of session, e.g. for some medical conditions

Types of activity

- Gym-based
- Circuits
- Outdoor walking
- Group exercise
- Aqua
- Yoga
- Pilates

Instructor must hold appropriate qualifications

Session structure

Warm up

- Preparation
- Start of the session

Main session

- Training phased
- Components of fitness

Cool down

- Recovery
- End of the session

Components of fitness

- Flexibility
- Cardiovascular
- Muscular strength
- Muscular endurance
- Motor skills, e.g. balance, coordination, power, agility

Principles of training

- Frequency – how often, e.g. number of times per week
- Intensity – how hard, e.g. the physical demands and effort
- Time – how long, e.g. the duration of a single session
- Type – the specific type of activity, and/or component(s) of fitness

Other variables

- **Overload** – the level of challenge to bring about the desired benefits
- **Adaptation** –how the body responds and adapts
- **Reversibility** – use it or lose it
- **Progression** – making an exercise or activity harder (overload)
- **Regression** – making an exercise or activity easier to maintain or sustain the level of functioning and prevent deterioration

Activity

Explain how to include physical activities as part of clients lifestyle to complement exercise sessions

Physical activity guidelines

Adults:

- 150 minutes of moderate intensity activity accumulated over 5 days a week

Or

- 75 minutes of vigorous intensity activities on 3 days a week

Or

A combination of both

Plus

- 2-3 days x week of muscular strength and endurance training

Plus

- Balance and stability activities for older adults over 65

Types of physical activity

- Gardening
- Climbing stairs
- Walking to the shops
- Dancing
- Exercise classes
- Housework
- Climbing stairs
- Cleaning the car
- DIY

Can be used to accumulate minutes of activity

Valuable for individuals who are not able to tolerate extended durations sessions

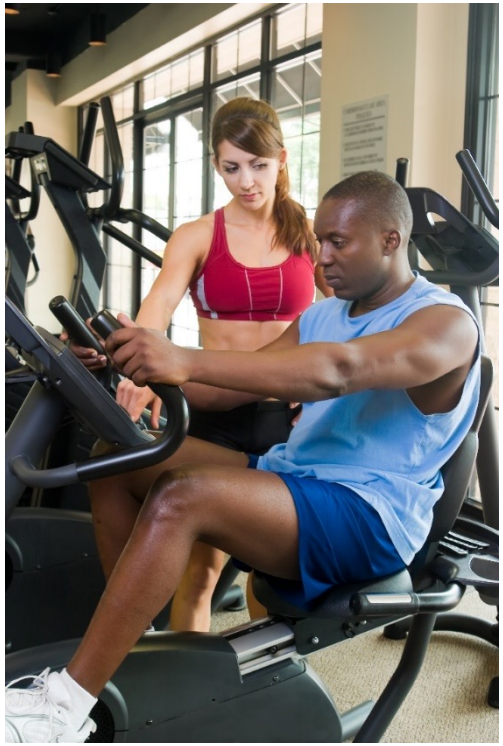
Boosts activity levels

Promotes adherence

Key message - *Sit down less and Move more often*

Activity

Describe a range of safe and effective exercises/physical activities to develop: cardiovascular fitness, muscular fitness, flexibility, motor skills, and core stability



Cardiovascular exercises

- Walk
- Swim
- Cycle
- Circuit
- Group exercise
- Level of weight bearing
- Level of impact

Frequency	Intensity and time
5 x week minimum	Moderate intensity 40-60% THR 4-6 on the 0-10 adapted RPE scale 30 minutes (can be accumulated)
OR	
3 x week minimum	Vigorous intensity >60% THR 7-8 on the 0-10 adapted RPE scale 20 minutes
OR a combination	

Source: ACSM. 2014

Considerations

This is general guidance!

More specific FITT guidelines and safety considerations offered for different medical conditions

- Lower intensity most appropriate for the inactive and untrained
- Lower impact for adults with physical limitations or musculoskeletal conditions, e.g. water-based or cycling
- Less complex
- Build duration steadily
- Interval approach may be appropriate
- Little and often - Increased risk of injury likely with higher intensity and reduced frequency training approaches
- Build gradually
- Ensure correct alignment

- Body weight exercises
- Resistance machines
- Free weights
- Use of portable equipment Water resistance
- Stability exercises
- Pilates
- Yoga

Muscular fitness

Frequency	Intensity and time
2-3 x week	General guidance • 8-12 repetitions per set • 60-80% of individual's 1 RM (fatigue, not failure) • 2-4 sets (single sets effective for novices) • Rest of 2-3 minutes between sets • 48 hours rest between sessions for the same muscle group Older adults and untrained: • 1 or more sets • 10-15 repetitions per set • 60-70% of 1RM

Source: ACSM. 2014

This is general guidance!

More specific FITT guidelines and safety considerations offered for different medical conditions

Considerations

- Lower resistance
- Lower repetitions
- Longer rest
- Simple approaches
- Non-complex
- Promote muscle balance
- Use compound (multi-joint) and isolation (single joint) exercises
- Promote correct alignment and technique

Flexibility

- Static stretches
- Mobility exercises
- Water-based offers support
- Pilates
- Yoga

Frequency	Intensity and time
2-3 x a week	Static, dynamic or PNF as general guidance All major muscles
Ideally every day	Static stretches held for 10-30 seconds To position of mild discomfort Static stretches for older adults Four repetitions of stretch per muscle group Proprioceptive neuromuscular facilitation (PNF) (6 second contract followed by 10-30 seconds assisted stretch)

Source: ACSM. 2014

This is general guidance!

More specific FITT guidelines and safety considerations offered for different medical conditions

Considerations

- Be warm before stretching
- Increased support and stability
- Use of floor based stretches
- Use of wall to assist balance
- Static stretches offer more control
- Smaller range of motion
- Mild tension in belly of muscle
- Ensure correct technique

Activity

When might it be appropriate to share the programme with other professionals? And which professionals?

Sharing information

Who?

- Multi-disciplinary teams
- GPs, physiotherapist, dietician
- Other instructors
- Scheme coordinator

When?

- For additional support and information, e.g. new symptoms present
- Legal and ethical reasons, e.g. risk of harm or non-compliant with medication
- Class cover
- To plan exit routes
- Discuss programme reviews
- Funding and commissioning support

Learning check

Knowledge:

- Explain the absolute contra-indications to exercise
- Summarise the key principles of designing exercise referral programmes to achieve short, medium and long term goals, including the order and structure of sessions
- Describe a range of safe and effective exercises/physical activities to develop: cardiovascular fitness, muscular fitness, flexibility, motor skills, and core stability
- Explain how to include physical activities as part of client's/patient's lifestyle to complement exercise sessions
- Identify when it might be appropriate to share the programme with other professionals

Learning check

Skills:

- Plan specific outcome measures, stages of achievement and exercises/physical activities that are appropriate to clients'/patients' medical condition/s, goals and level of fitness and consistent with accepted good practice
- Ensure appropriate components of fitness are built into the programme
- Apply the principles of training which are appropriate to exercise referral clients/patients and their condition/s to help achieve short, medium and long term goals
- Agree the demands of the programme with clients/patients
- Agree a timetable of sessions with clients/patients
- Agree appropriate evaluation methods and review dates with clients/patients
- Identify the resources needed for the programme, including the use of environments not designed for exercise
- Record plans in a format that will help clients/patients and other professionals involved to implement the programme
- Agree how to maintain contact with exercise referral clients/patients between sessions

Planning exercise referral programmes

LO: How to adapt exercise referral programmes

Assessment criteria

Knowledge

- Explain how the principles of training can be used to adapt the programme where goals are not being achieved and/or new goals have been identified
- Describe appropriate training systems and their use in providing variety and in ensuring programmes remain effective
- Explain why it is important to keep accurate records of changes including the reasons for change
- Explain when it may be appropriate to share changes to exercise referral programmes with other professionals

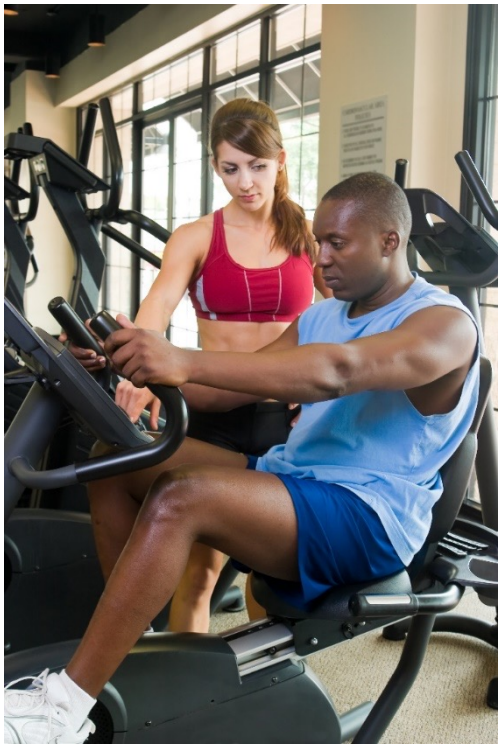
Assessment criteria

Skills:

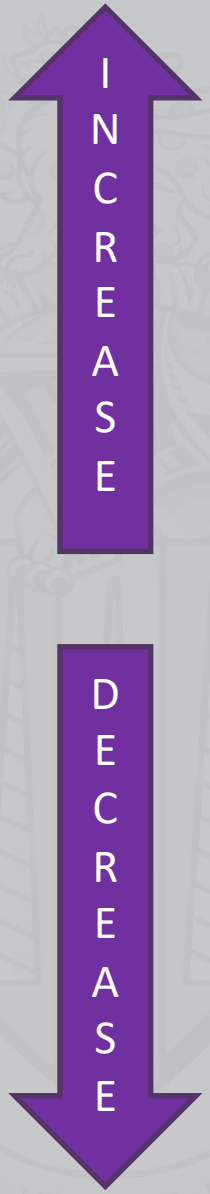
- Identify exercises and physical activities that need to be redefined or adapted
- Agree adaptations, progressions and regressions to meet clients'/patients' needs to optimise achievement
- Identify and agree any changes to environments and resources with the client/patient
- Introduce adaptations in a way that is appropriate to clients/patients, their needs and medical condition/s
- Record changes to programme plans to take account of adaptations
- Monitor the effectiveness of adaptations and update the programme as necessary

Activity

How can the principles of training can be used to adapt the programme where goals are not being achieved and/or new goals have been identified?

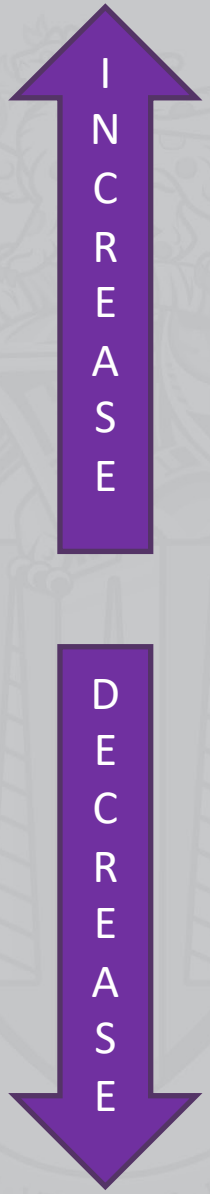


Principles of training



- Frequency – how often, e.g. number of times per week
- Intensity – how hard, e.g. the physical demands and effort
- Time – how long, e.g. the duration of a single session
- Type – the specific type of activity, and/or component(s) of fitness

The FITT variables can be used to adapt the programme



Principles of training

- Frequency –can increase or decrease the number of times per week
- Intensity – can increase or decrease the repetitions, sets, resistance, % of THR, range of motion
- Time – can increase or decrease the duration of a single session
- Type – can change the specific type of activity, and/or component(s) of fitness training, e.g. exercise in water, gym, outdoors, change muscles worked, change exercise positions.

Other training variables

- **Overload** – the level of challenge to bring about desired benefits
- **Adaptation** –how the body responds and adapts
- **Reversibility** – use it or lose it
- **Progression** – making an exercise or activity harder (overload)
- **Regression** – making an exercise or activity easier to maintain or sustain the level of functioning and prevent deterioration

These training variables can be used to adapt the programme

Other training variables

- **Overload** – increase or decrease the FITT principles to alter level of challenge
  - **Adaptation** – the body adapts to the specific demand
  - **Reversibility** – use it or lose it
- **Progression** – making an exercise or activity harder (overload)
- **Regression** – making an exercise or activity easier

Regression may be needed as chronic health condition progresses. The aim is to maintain functioning and health and reduce the rate of deterioration from the condition

Activity

Describe appropriate training systems and their use in providing variety and in ensuring programmes remain effective

Different training systems

- Cardiovascular – continuous, interval or fartlek
- Flexibility – static, dynamic ROM, PNF
- Muscular – single sets, circuit approach, multiple sets, super sets

Must select appropriate and **realistic** approach

The value of training systems

- Variety and interest
- Effectiveness of programme
- Increase motivation
- Promote adherence
- Meet specific client needs or goals
- Structured approach
- Training approaches offer method for progression or regression

Activity

Why is it important to keep accurate records of changes including the reasons for change?

When it may be appropriate to share changes to exercise referral programmes with other professionals?

Importance of recording changes

- Legal requirement to maintain up-to-date records
- Scheme monitoring and evaluation
- To support funding applications with commissioning bodies
- Client tracking and progress reviews, e.g. motivation, adaptation
- Instructor review, including other instructors working with client
- Reporting, e.g. to keep health professionals informed

Any changes to programme should be recorded with reasons for change. These should be signed and dated as part of the audit trail for quality assurance purposes

Sharing information

When?

- For additional support and information, e.g. new symptoms present
- Legal and ethical reasons, e.g. risk of harm or non-compliant with medication
- Class cover
- To plan exit routes
- Discuss programme reviews
- Funding and commissioning support

Who?

- Multi-disciplinary teams
- GPs, physiotherapist, dietician
- Other instructors
- Scheme coordinator

Learning check

- Explain how the principles of training can be used to adapt the programme where goals are not being achieved and/or new goals have been identified
- Describe appropriate training systems and their use in providing variety and in ensuring programmes remain effective
- Explain why it is important to keep accurate records of changes including the reasons for change
- Explain when it may be appropriate to share changes to exercise referral programmes with other professionals

Learning check

Skills:

- Identify exercises and physical activities that need to be redefined or adapted
- Agree adaptations, progressions and regressions to meet clients'/patients' needs to optimise achievement
- Identify and agree any changes to environments and resources with the client/patient
- Introduce adaptations in a way that is appropriate to clients/patients, their needs and medical condition/s
- Record changes to programme plans to take account of adaptations
- Monitor the effectiveness of adaptations and update the programme as necessary

Planning exercise referral programmes

LO: Managing an exercise referral scheme and progress reviews

Assessment criteria

Knowledge:

- Monitor integration of exercise referral programme and wider physical activity
- Provide alternatives to the programmed exercises/physical activities if clients/patients cannot take part as planned
- Monitor clients'/patients' progress using appropriate methods
- Write a letter to a healthcare professional communicating appropriate information and using accurate language

Assessment criteria

Skills:

- Explain the purpose of reviewing progress to patients
- Review short, medium and long term goals with clients/patients at agreed points in the programme, taking into account any changes in circumstances
- Encourage clients/patients to give their own views on progress
- Use suitable methods of evaluation that will help to review client/patient progress against goals and initial baseline data
- Give feedback to clients/patients during their review that is likely to strengthen their motivation and adherence
- Agree review outcomes with clients/patients and other professionals
- Keep an accurate record of reviews and their outcome

Activity

What would you need to consider when writing a letter to a healthcare professional?

Letter writing

Task:

Produce a letter template

Use appropriate, accurate language and correct spelling/grammar
Black ink, ideally typed
Appropriate font and font size (e.g. Arial, 12)
Include appropriate information:

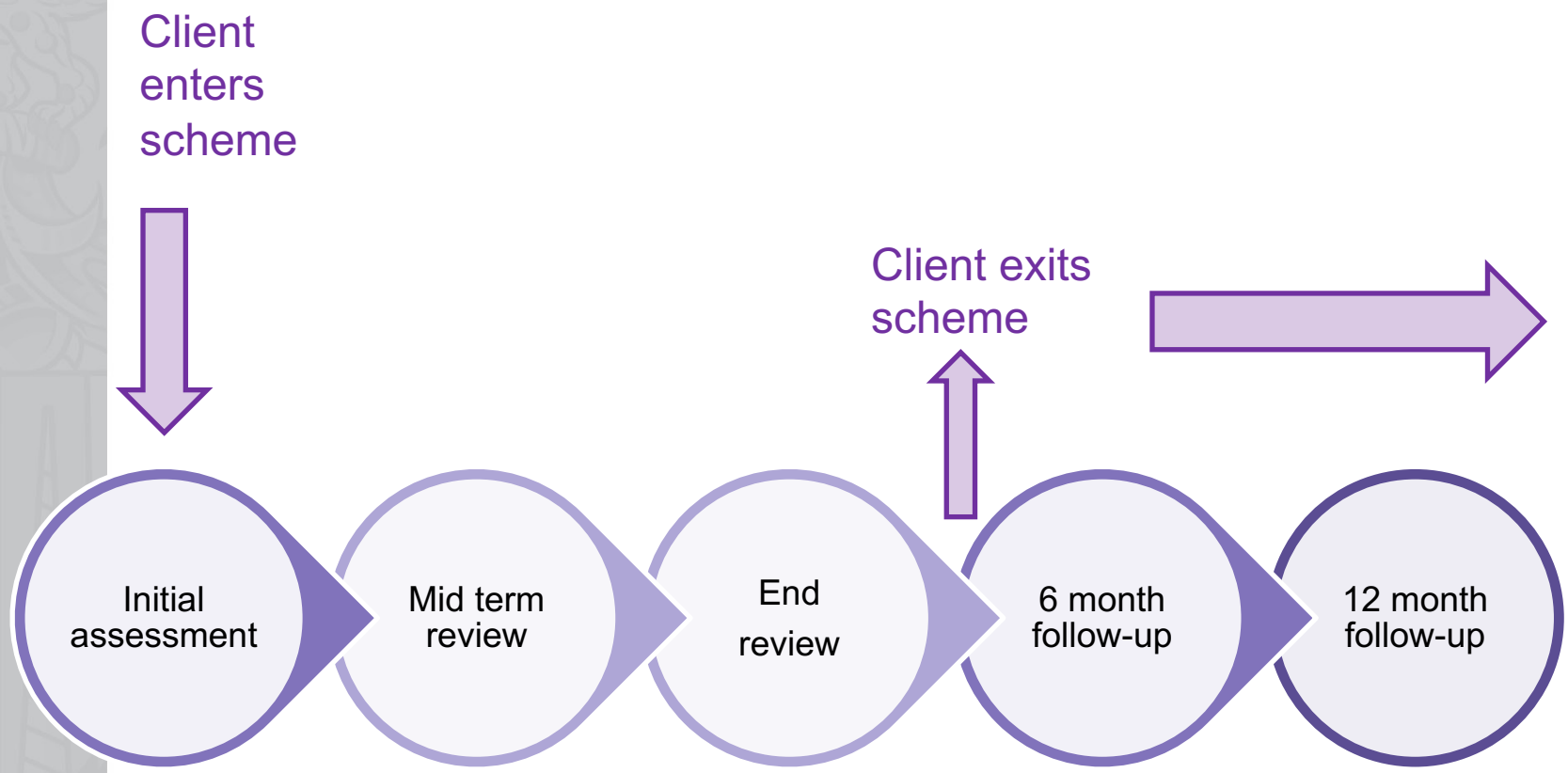
- Headed paper
- Referral scheme address
- Recipient address (left hand side)
- Date – written in full 12th July 2016 (underneath recipient's address)
- Professional greeting, e.g. Dear Dr Jones (if the surname not known use Sir/Madam)
- The purpose of the letter outlined in the first paragraph
- Concise and factual message
- Ending
  - *Yours Sincerely* if the name of the GP is known
  - *Yours Faithfully* the name of the GP is not known
- Own signature
- Own name printed below the signature

Activity

How can clients' progress be monitored?

What are appropriate methods for monitoring progress?

Key monitoring milestones



Monitoring – every session

- Check for any contra-indications, e.g. blood pressure
- Check for changes in condition
- Check any changes in symptoms, including additional symptoms
- Check if any programme changes needed, e.g. modifications, progressions, regressions
- Check progress towards goals and revise if needed
- Check if any reasons to defer exercise, e.g. feeling unwell
- Check if anything needs to be signposted back to referring health professional, e.g. GP

Initial assessment and progress reviews

- Verbal conversation and use of question and answer
- Written questionnaires
  - EQ5D – quality of life
  - IPAQ – activity levels
- Observation
- Health assessments, e.g. blood pressure, heart rate, BMI
- Functional assessments, e.g. sit to stand
- Physical assessments, e.g. range of motion
- Other, e.g. review pedometer data, diaries, programme cards

Post-scheme follow-up

Purpose:

To monitor longer term adherence and review success of exercise referral as a lifestyle intervention

Methods:

- Telephone interviews
- Postal questionnaires
- Exit route activity monitoring

Scheme monitoring

- Attendance registers - adherence and changes in activity levels
- Medical records – changes to condition and/or medications
- Number of re-referrals
- Number of drop-outs
- Number of GP surgeries referring clients
- Number of clients referred by each surgery
- Exit route session attendance registers

Activity

How would you give feedback to clients to strengthen their motivation?

How would you encourage clients to share their views?

Client feedback

- Face to face
- Private area
- Immediately after a review or as close to a review date as possible.
- Positive and affirming language
- Constructive and specific
- Genuine, honest and respectful
- Accentuate the positive
- Use descriptive language, e.g. what was done well, rather than using evaluative language, e.g. good, poor
- Medal – mission – medal approach, e.g. something positive, something to work on
- Relevant, e.g. link with goals and objectives

Encouraging client views

Purpose:

- Client involvement and engagement
- Partnership working
- Equal and shared responsibility
- Provides another source of review data

How?

- Ask open questions – what? / when? / how?
- Listen
- Written questionnaires
- Evaluation forms

Activity

How could you monitor integration of exercise referral programme and wider physical activity?

Monitoring & wider activity

- Client interviews and discussion
- Observation, e.g. clients attending other sessions
- Post-scheme follow up of clients
- Exit route session attendance
- Any additional support groups set up, e.g. training buddy system, walking group, green gym

Activity

How could you provide alternatives to the programmed exercises/physical activities if clients cannot take part as planned?

Alternatives

- Adapt exercises in a specific session
    - Exercise start position
    - Intensity – repetitions, resistance, range of motion, rate/speed, sets, % THR, leverage, duration
- Offer lifestyle activity guidance or alternative activities if client can attend a session
    - Timetable of other activities, e.g. walking groups, swim club
    - Physical activity handout
    - Discuss activities of daily living

Learning check

- Monitor integration of exercise referral programme and wider physical activity
- Provide alternatives to the programmed exercises/physical activities if clients/patients cannot take part as planned
- Monitor clients'/patients' progress using appropriate methods
- Write a letter to a healthcare professional communicating appropriate information and using accurate language

Learning check

Skills:

- Explain the purpose of reviewing progress to patients
- Review short, medium and long term goals with clients/patients at agreed points in the programme, taking into account any changes in circumstances
- Encourage clients/patients to give their own views on progress
- Use suitable methods of evaluation that will help to review client/patient progress against goals and initial baseline data
- Give feedback to clients/patients during their review that is likely to strengthen their motivation and adherence
- Agree review outcomes with clients/patients and other professionals
- Keep an accurate record of reviews and their outcome