

UK Anti-doping guidance on ADHD Therapeutic Use Exemptions

Professor Alan Currie



Treating athletes from the prohibited list

- 4 criteria must be met (all 4)
 - There would be significant health problems without treatment
 - Treatment might return the athlete to full health but must not produce any additional enhancement of performance
 - There is no reasonable therapeutic alternative
 - The need for treatment is not due to the prior use of the prohibited substance

TUE Applications

- In psychiatric practice there are only a few drugs that might require a TUE application. These include
 - Stimulants to treat ADHD
 - Beta blockers
 - In some sports at least some of the time
 - Benzodiazepines
 - Modafinil
 - A narcolepsy treatment sometimes used as an antidepressant augmentation
 - Bupropion (not banned but 'under review')
 - A 'pro-dopaminegic' antidepressant
 - May benefit endurance performance

Criterion 1. Satisfy that treatment is necessary for health

- Clarify the health problem as robustly as possible
 - History and examination by an experienced and competent professional
 - History and symptoms with reference to DSMV
 - Recognised diagnostic schedule
- Severity rating to establish
 - Necessity for treatment
 - That treatment improves health (at reviews)

Diagnostic schedules

- Suitable for use in supporting a clinical diagnosis and a first TUE application
 - Diagnostic Interview for ADHD in Adults (DIVA)
 - Conner's Adult ADHD Diagnostic Interview for DSMIV (CAADID)
 - For children: ADHD Child Evaluation (ACE)
 - Adult version: ACE Plus

Symptom rating scales

- Suitable for use in rating clinical severity and a repeat TUE application
- Demonstrates that treatment is necessary for health (first TUE application criteria)
 - Barkley's Quick-Check for Adult ADHD Diagnosis
 - Adult ADHD Self-Report Scale Symptom Checklist (ASRS)
 - ADHD-RS (children and adolescents)

UKAD Policy 2018 – guidance for medical evidence

- Robust diagnosis
 - History
 - Corroborated history
- Diagnostic schedule (initial application)
 - DIVA, CAADID, ACE, ACE+
- Rating scales (application and renewal)
 - Barkley, ASRS, ADHD-RS

UKAD Policy 2018 – a register of ‘experts’

- Rapid access to expert opinion in difficult cases
- ‘Expert’?
 - Experience
 - Caseload
 - Competencies
- Fee

Definition of an expert - experience

- Primary post
 - Essential: consultant psychiatrist (or equivalent)
 - Desirable: Consultant with primary role in ADHD service
- Years of service
 - Essential: 2 years post MRCPsych
 - Desirable: 2 years in service for ADHD

Definition of an expert - caseload

- Number of new assessments per year
 - Essential: 5
 - Desirable: 20 (2 per month)
- Number of cases being followed up
 - Essential: 10 per annum
 - Desirable: 20 per annum

Definition of an expert - competencies

- ADHD CPD
 - Essential: 5 hours specific to ADHD
 - Desirable: 10 hours specific to ADHD
- NICE competencies
 - Essential: Experience with common co-morbidities such as PD, substance misuse, mood disorders and psychoses
 - Essential: Experience in diagnosis, differential diagnosis and clinical management of ADHD
 - Desirable: use of rating scales (2 diagnostic schedules and 2 symptom severity scales)

Issues for discussion

- Will the standard diagnostic assessment be robust enough?
 - Diagnostic schedules
 - Rating scales
- What is an expert?
 - Years of experience
 - Number of assessments
 - Number of follow-ups
 - CPD requirement
- What is a reasonable fee?

Moving Healthcare Professionals

A national approach to integrate physical activity within healthcare

Dr Mike Brannan
Deputy National Lead for Adult Health & Wellbeing



Inactivity is killing us

Decreasing activity levels since 1960s:

- Adults are over 20% less active
- By 2030 we will 35% less active

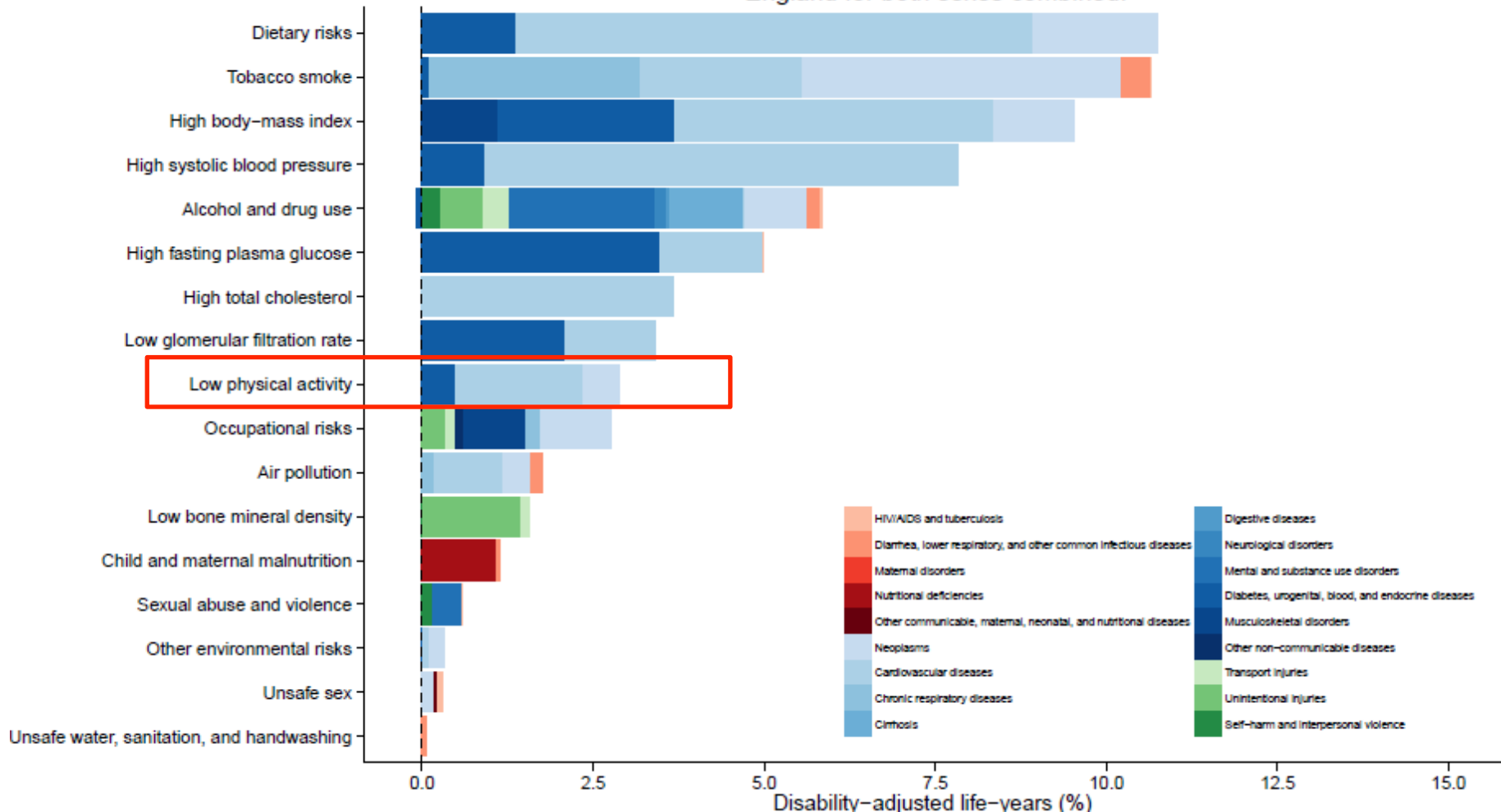
Physical inactivity is responsible for:

- 1 in 6 UK deaths
- Up to 40% of many long-term conditions
- Around 30% of later life functional limitation and falls

Estimated £7.4 billion annual cost

Physical activity is a priority for England

Figure 8a. DALYs attributed to Level 2 risk factors in 2013 for England for both sexes combined.



Everybody needs to be more active every day



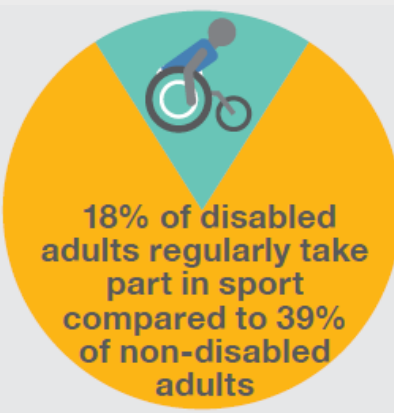
33% of men are not active enough for good health



45% of women are not active enough for good health



19% of men and 26% of women are 'physically inactive'



18% of disabled adults regularly take part in sport compared to 39% of non-disabled adults



23% of girls aged 5-7 meet the recommended levels of daily physical activity, by ages 13-15 only 8% do



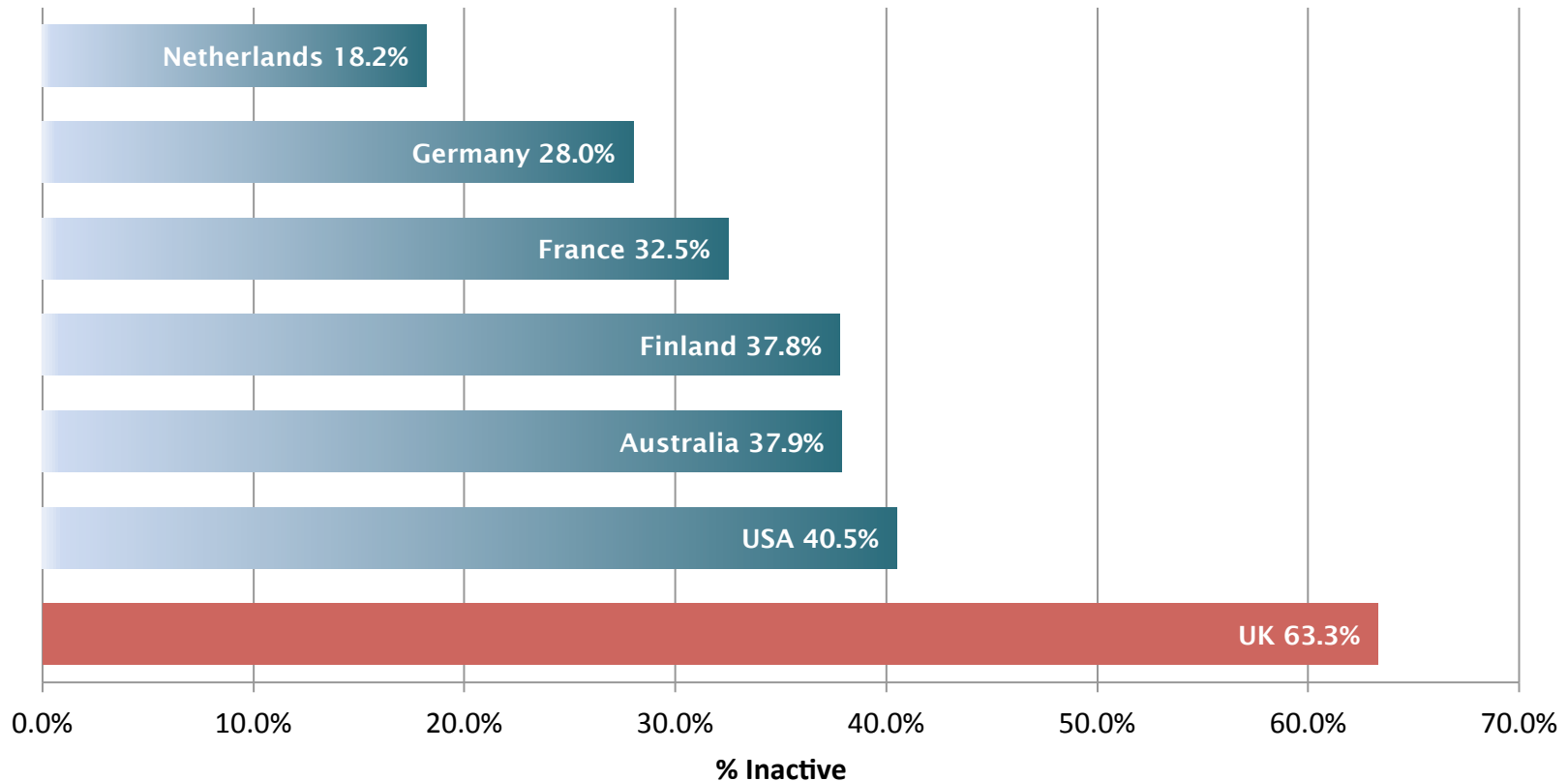
21% of boys and 16% of girls aged 5-15 achieve recommended levels of physical activity



47% of boys and 49% of girls in the lowest economic group are 'inactive' compared to 26% and 35% in the highest

How inactive are we really?

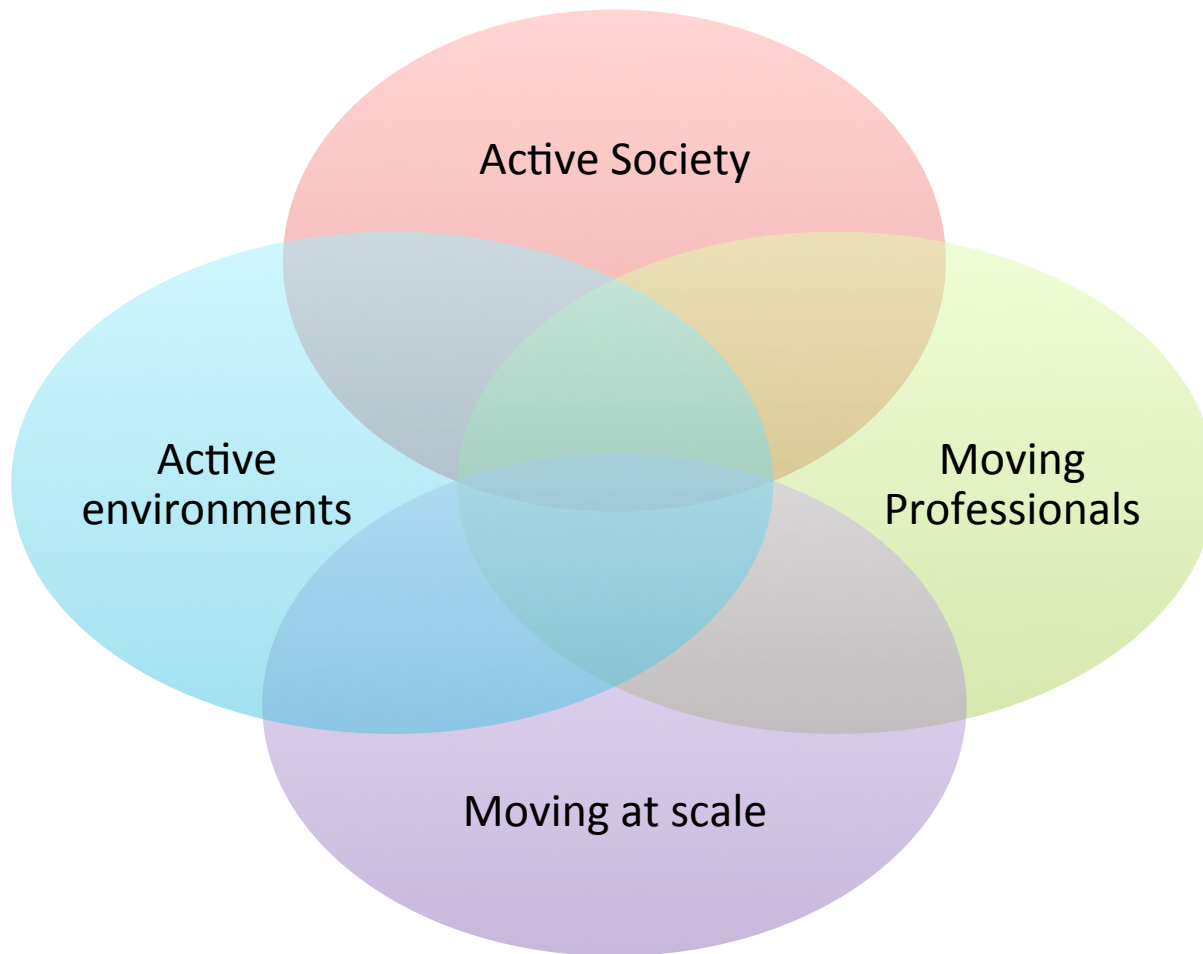
International comparison of physical inactivity (at ages 15 and over)



Note: Comparator = Not meeting any of the following per week: (a) 5 x 30 mins moderate-intensity activity; (b) 3 x 20 mins vigorous-intensity activity; (c) equivalent combination achieving 600 metabolic equivalent-min.

Public Health England (2014) *Everybody Active, Every Day*; Based on Hallal PC *et al.* (2012) Global physical activity levels: surveillance progress, pitfalls, and prospects. *The Lancet*.

Everybody Active, Every Day: The national framework for action



Moving professionals domain

Activating networks

Utilising existing **network of influencers** on the public, the public & voluntary sector workforce

‘Making every contact count’
across sectors and disciplines

Starting with expertise & leadership
in **key sectors**:

- Education
- Sports & leisure
- **Health & social care**
- Planning, design, transport

Why healthcare professionals?

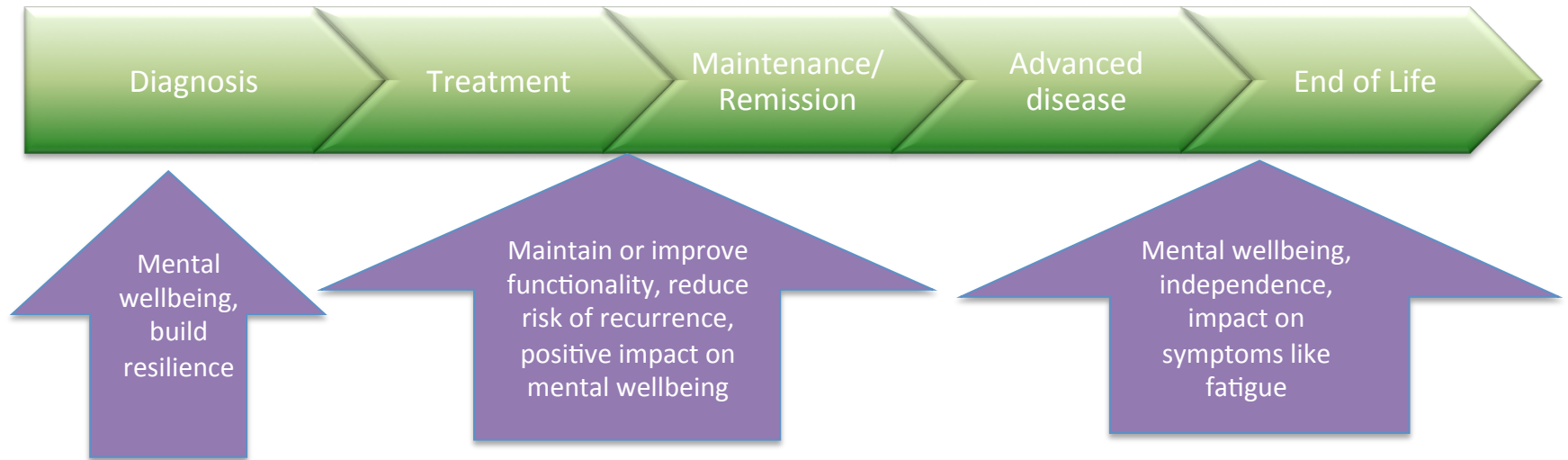
National clinical guidelines (NICE) support promotion of physical activity with inactive patients and across conditions

Around 600,000 skilled health professionals as key influencers at times of change and life transitions

1 in 4 people would be more active if advised by a GP or nurse
70- 80% patients are not told about benefits of physical activity

Only 1 in 5 GPs familiar with national guidelines, with similar knowledge levels in professions such as physiotherapy

Embedding physical activity within the clinical care pathway



Role of activity in achieving population health goals - the UK PROMISE study

PROMISE modelled potential UK interventions to WHO target of 25% premature mortality reduction by 2025

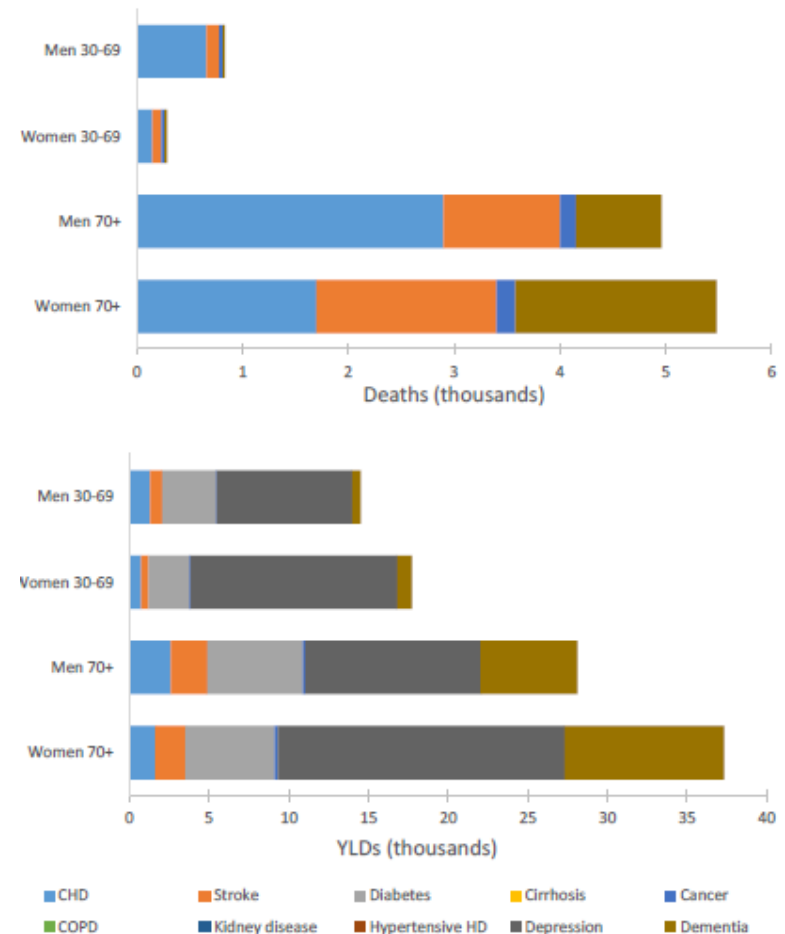
Potential impact of primary care behaviour change over 2015-25:

- Prevent 11,600 premature deaths
- Save 98,000 Years Lived with Disability

Also highlighted evidence for:

- Redesign urban environments
- Support community groups

Possible deaths & YLD saved 2015-25



Scarborough P et al. (2016) *Translating the World Health Organization 25x25 goals into a United Kingdom context: The PROMISE study.*

Key national policies embedding *Everybody Active Every Day* principles

National Sport Strategy

Childhood Obesity Plan

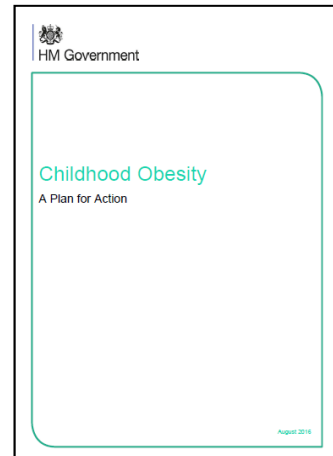
Cycling and Walking Investment Strategy

Work, Disability and Health Green Paper

NHS Five Year Forward View

NHS Sustainability & Transformation Plans

NHS workforce health CQUIN



Moving Healthcare Professionals national programme



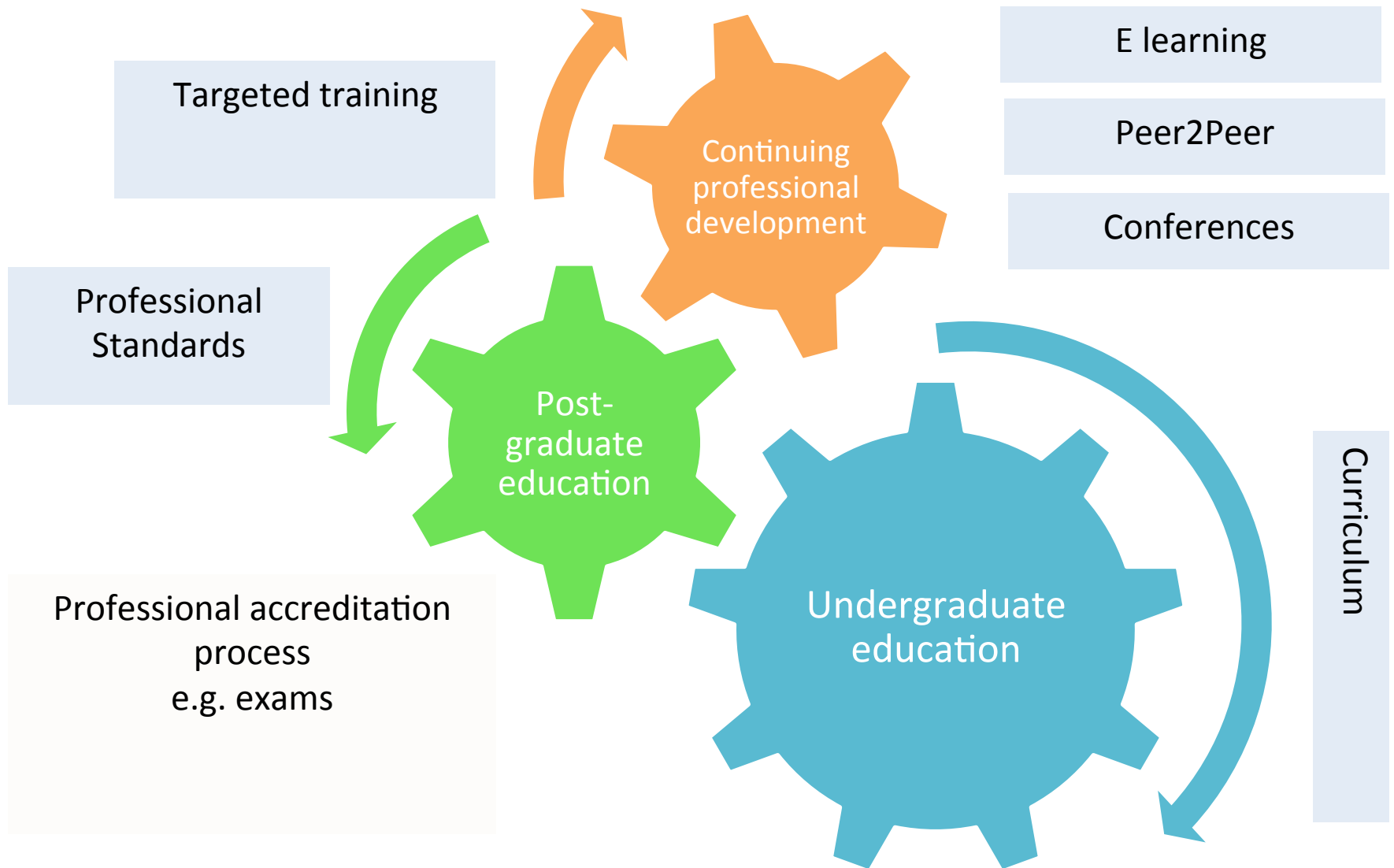
Led by PHE and Sport England and co-produced with and delivered by leaders from across healthcare and physical activity sectors

Aim: Increase the awareness, skills and change clinical practice of health professionals in the promotion of physical activity to patients at risk of or with, health conditions.

Objectives:

1. Increase awareness and skills in physical activity for prevention and management of ill health.
2. Change clinical practice in the promotion of physical activity.
3. Evaluate the impacts of specific components to identify what could be scaled up or developed.

Moving Professionals – The model



Moving healthcare professionals

Themes and work streams

Upskilling healthcare professionals

- Chief Medical Officers' infographics
- Clinical champions peer education programme
- Physical activity e-learning resources
- Physical activity in clinical care resources
- Specialism-specific initiatives

Upskilling the next generation of healthcare professionals

- Undergraduate curriculum

Scoping and piloting longer term clinical work

- Physical activity clinical advice pad
- Sports and Exercise Medicine in secondary care

Programme evaluation

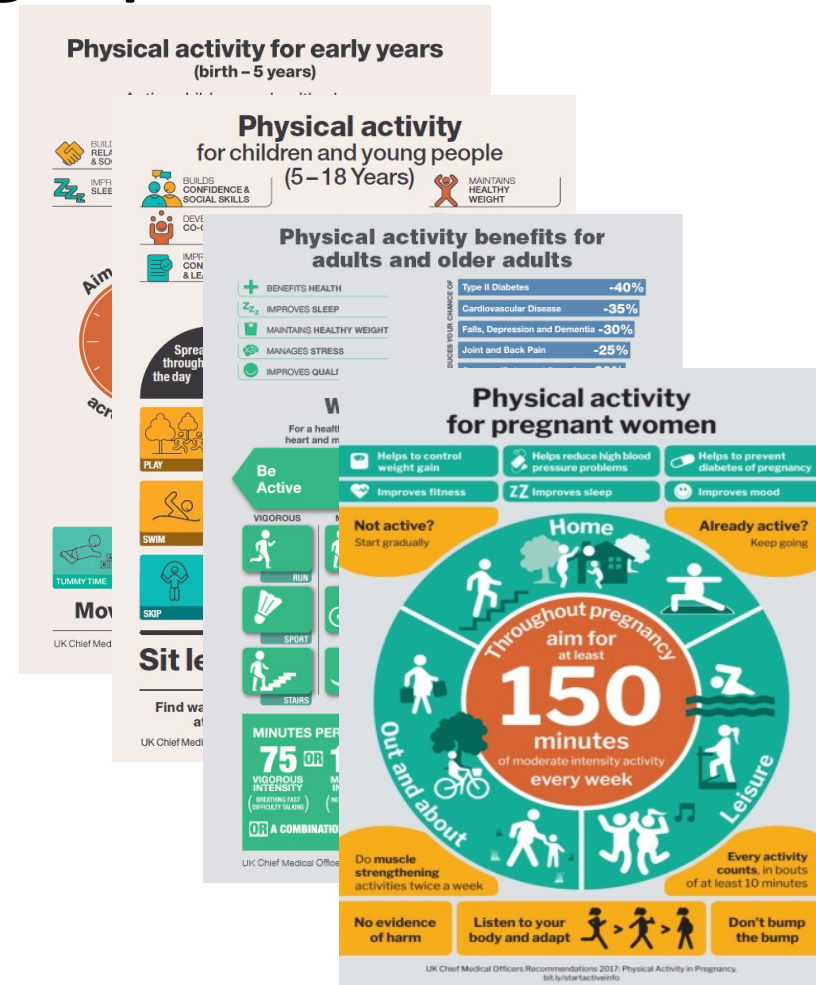
UK Chief Medical Officers' infographics

Developed by CMOs' Expert Group of academics and practitioners for healthcare professionals

Explain guidelines with practical advice on how to communicate them and activities to advise

Guidelines across

- Life stages (0-5, 5-18, 19+ years)
- Pregnancy
- Disabilities [in 2018]



E-learning modules

Nine e-learning modules on physical activity and health, plus a motivational interviewing module

Broad usage across specialisms and primary/secondary care with over 80,000 modules completed

High popularity modules:

- Motivational interviewing
- Diabetes

New set of eight modules planned for 2018

BMJ Learning

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**Public Health
England**

This module was funded by, and developed in association with, Public Health England.

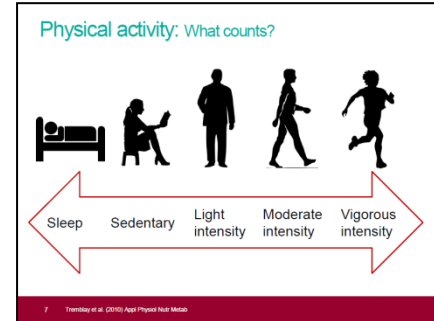
Clinical Champions programme

5,000 healthcare professionals trained through peer-to-peer education

Delivered with local physical activity system, including local government and strategic sports partnership

Stepped national expansion across professions:

- 19 GP Clinical Champions
- 18 nurse Clinical Champions
- 4 lead Champions for Allied Health Professions (Midwife, Physiotherapist, Psychologist and Pharmacist)
- All Sports and Exercise Medicine specialist trainees offered training to be Champions

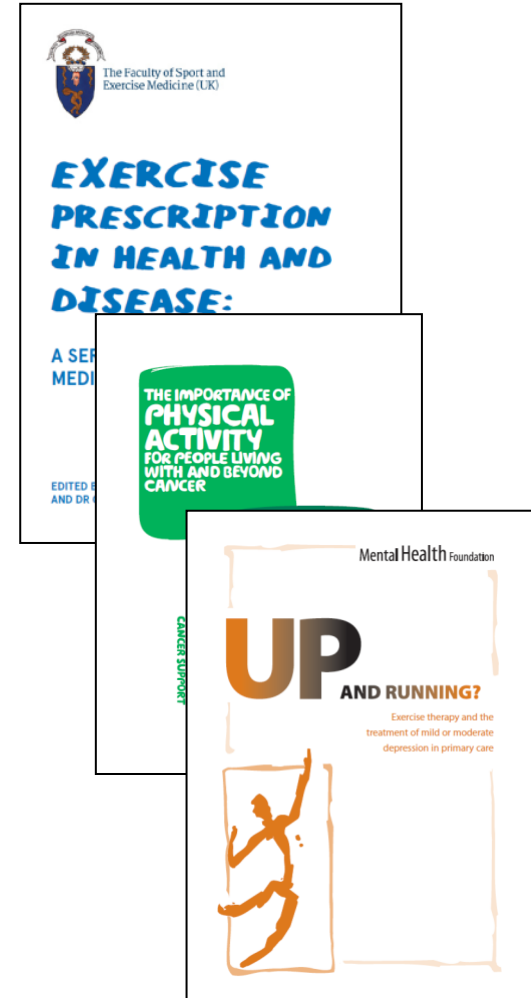


Clinical care resources

Developing clinician-facing resources on physical activity in treatment and management of clinical conditions

Partnership with Faculty of Sport and Exercise Medicine and National Centre for Sport and Exercise medicine to:

1. Synthesise latest evidence
2. Identify opportunities for integration into existing Continuing Professional Development
3. Develop suite of clinician-facing resources tailored to CPD and guidelines of Medical Royal Colleges



Movement for Movement **undergraduate teaching resources**

Over 20 health free-to-use undergraduate teaching slide sets on physical activity and health

Developed by international consortium led by Exercise Works, peer-reviewed and approved by Council of Deans of Health

Used by 17/34 UK medical schools

Aim to increase and evaluate uptake across medical schools and other schools of health



Council of
Deans of Health

Clinical advice pad pilot

Pilot clinical advice pad with professionals as adjuvant to verbal advice

Integrated with national *Active 10* marketing campaign and phone app

Five pilot areas with ~125 sites to test:

- Acceptability with clinicians and patients
- Use by different clinical professions
- Impact on patient behaviour

The image shows a sample of the 'ONE YOU PHYSICAL ACTIVITY ADVICE' form. At the top left is the Public Health England logo. The title 'ONE YOU' is in large bold letters, with 'PHYSICAL ACTIVITY ADVICE' below it. There are two input fields: 'Patient name' and 'Today's date'. Below these is a paragraph of text: 'Building up every day to regular activity can improve your mood, give you more energy and help you sleep. As well as reducing your risk of long term health conditions like heart disease, type 2 diabetes and some cancers.' This is followed by a section 'I recommend that for your health you should...' with two columns of advice. The left column is 'Get moving for at least...' with checkboxes for '10 minutes a day', '15 minutes a day', '20 minutes a day', and 'Reduce the amount of time you spend sitting for long periods every day'. The right column is 'Do muscle strengthening activities on at least...' with checkboxes for 'One day a week' and 'Two days a week'. Below this is a 'Condition specific advice (optional):' field. At the bottom are 'Date for review' and 'Signed GP or Healthcare Professional' fields. At the very bottom, there is a promotional banner for the 'Active 10' app, showing a smartphone icon with 'Active 10' and 'DOWNLOAD THE FREE ACTIVE 10 APP' text, and the slogan 'BECAUSE THERE'S ONLY ONE YOU'.

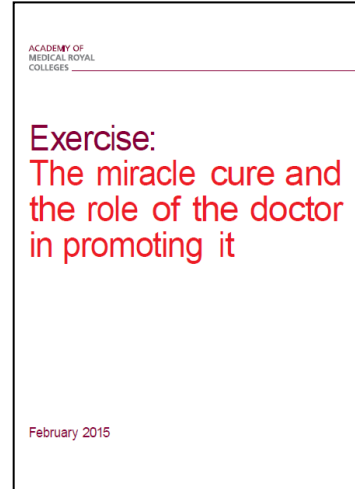
Specialism-specific initiatives

Recognises 'tribal' nature of healthcare professions and value of tailored, practical resources

Resources include:

- Tailored reviews and practical resources
- Bespoke training
- Evidence into practice conferences
- Specialism priorities and development
- Targeted national marketing campaign resources

Also work bridging work with sport and leisure sector



Sport & Exercise Medicine pilot

Pilot 'palliative care'-type Sport & Exercise Medicine (SEM) support and advice in secondary care for treatment and management of complex patients

Led by hospital with SEM consultant and supported by Faculty of Sport & Exercise Medicine

Evaluation will identify which specialisms and patient groups that benefit most from SEM interventions in multi-disciplinary teams

Key learning

Healthcare professionals can play a critical role in increasing physical activity and reducing inactivity

Knowledge and skills gap is primary obstacle to healthcare professionals and key to adoption at scale

Need to change culture to win 'hearts and minds', as well as practice

Let's get
*Everybody Active Every
Day!*

Competencies of a Sport Psychiatrist *developing our understanding*

Drs Phil Hopley & Tim Rogers

Psychology across Sport

Sport wide

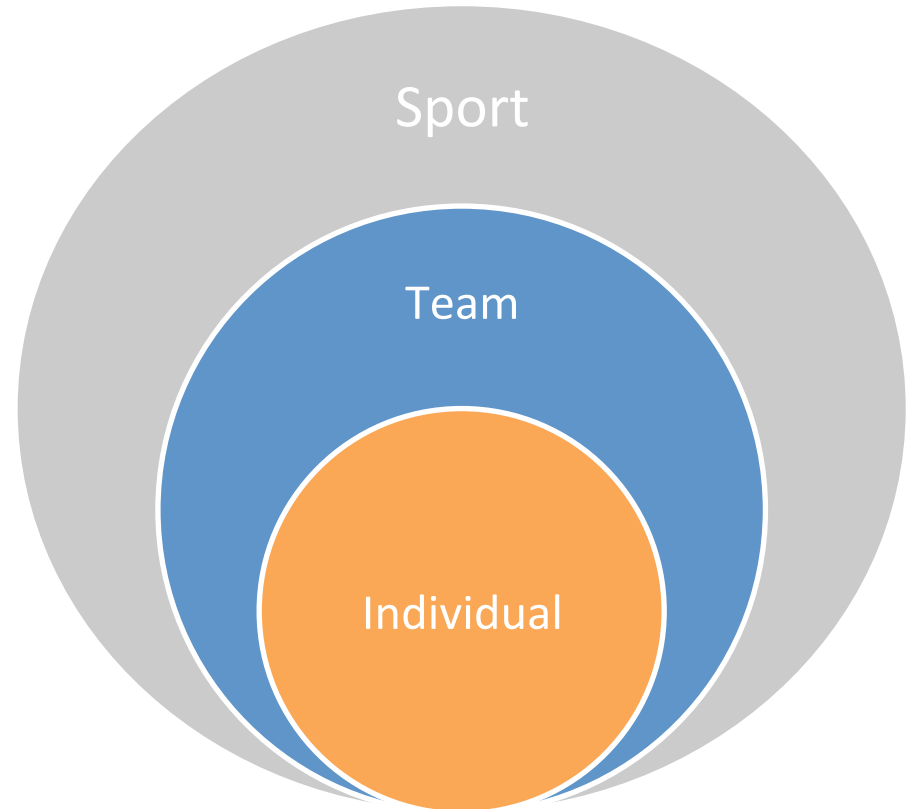
- **Confidential Counselling Service**
- **Education programmes**
- Consultancy to sport bodies

Team Level

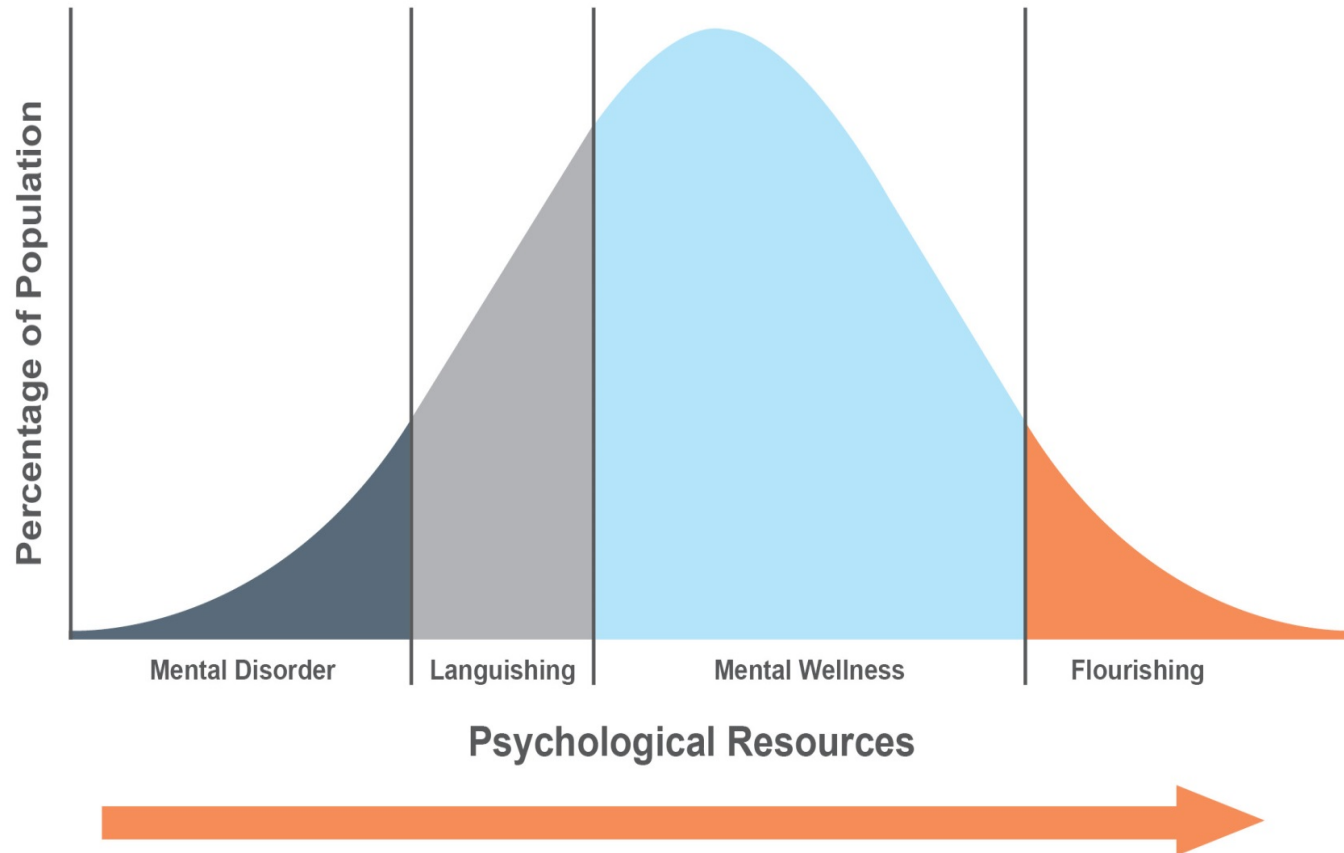
- Education programmes
- Resilience training
- Effective communication
- Coach awareness / development

Individual Level

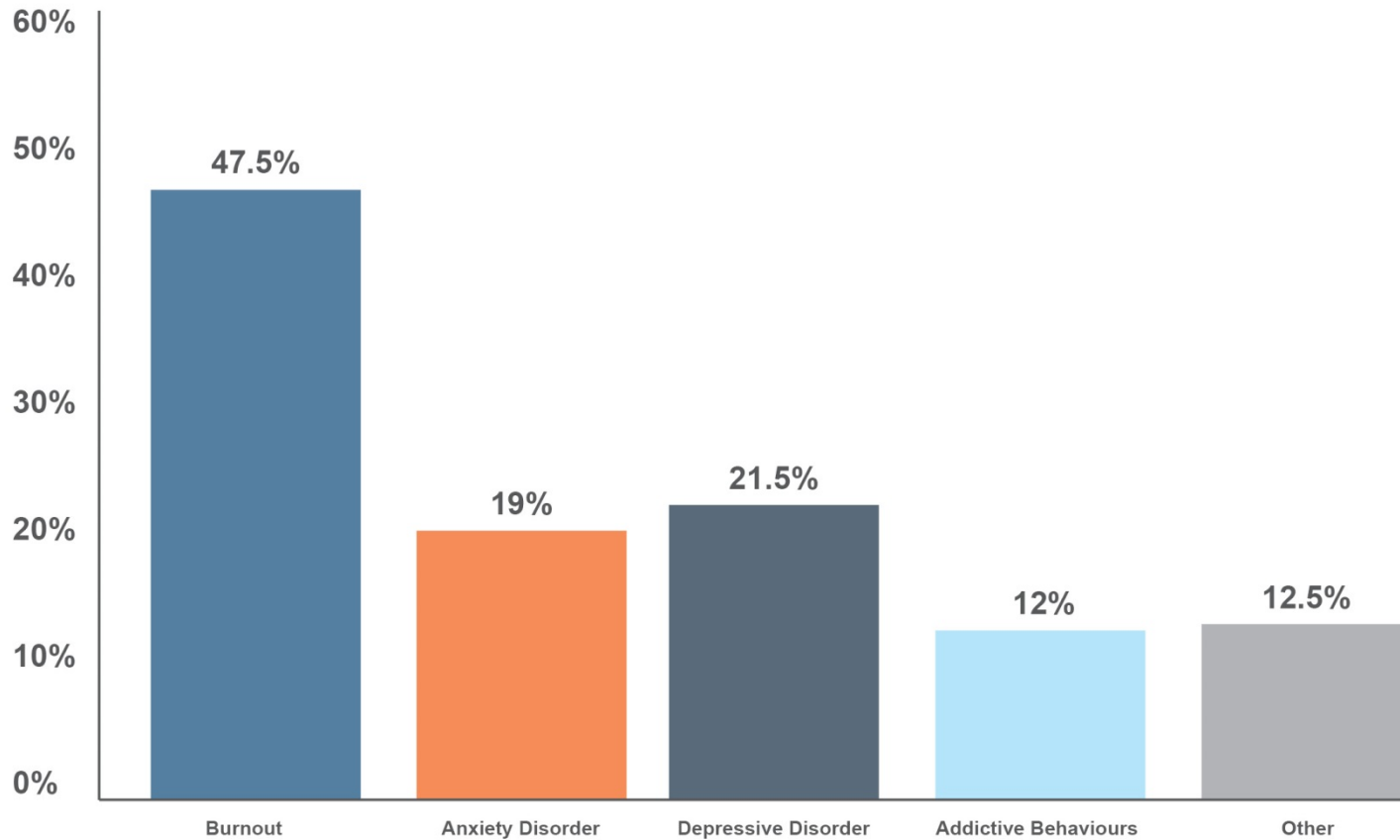
- Foundation / Performance skills
- **Facilitative Skills inc Clinical Psych**
- **Forensic assessment (Disciplinary)**



The Mental Health Spectrum



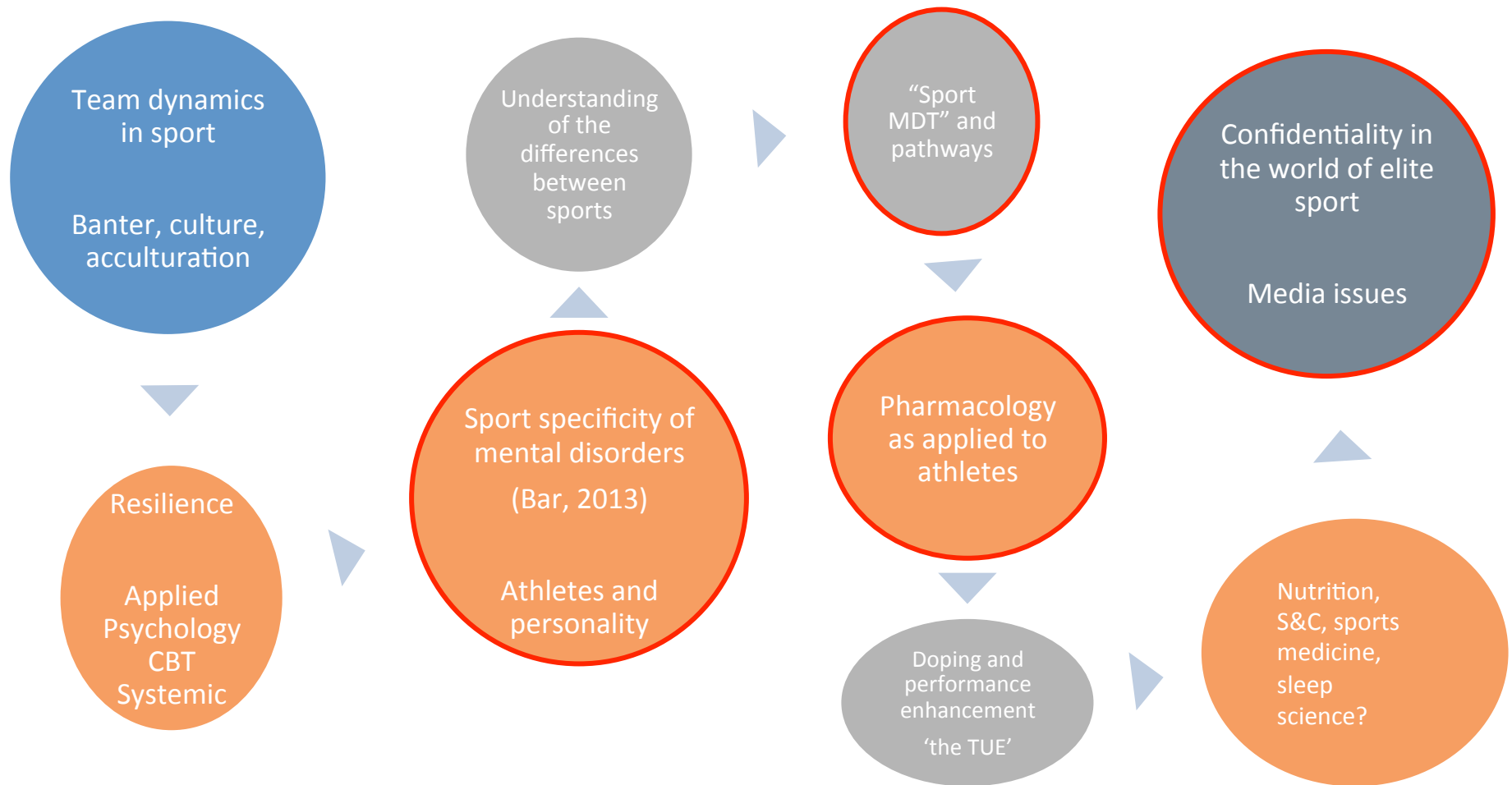
Elite Sport Referrals



RCPsych COMPETENCIES

1. Core Competencies - established
2. Specialist Competencies - established
3. Sport Specific Competencies – for discussion

Possible Essential/Desirable



Updates

- Competencies of a sports psychiatrist
- Exercise interventions in practice
- Other updates

English Institute of Sport

- Led by Dr Rod Jaques
- Mental health care is funded by EIS
 - Via priority
 - Uptake by around 8% of athletes
- Survey of mental health in ‘performance’ athletes (i.e. state funded athletes)
- Large number (>1000)
- Short survey (max 10 minutes)

EIS Mental Health Survey

- Study design
 - ‘one hit’ and max 10 minutes to complete
 - control group needed?
 - which measures?
- Timescale
 - Project plan by December 2017
 - Data collection by March 2018
- Would we be willing to lead the survey?
 - Interested senior trainees with research time?

MRCPPsych Examination - MCQs

- Paucity of questions in some areas
- Question banks generated by volunteers
 - Poor quality and only 10-15% are suitable
- Review of process for generating questions
 - Engage with experts (SIGs)
 - Question writing workshops
 - SEPSIG view on how we might help

sportandexercisepsychiatry.co.uk

Athletes with eating disorders – working with coaches

Dr C Nahman

MbChB, PhD MRCPsych

Nottinghamshire CAMHS ED team

Objectives

- Brief introduction to eating disorders
- Some understanding of presentation of eating disorders in athletes
- Understand some of the risks/vulnerabilities in athletes
- Working with coaches – the good, the bad and the ugly
- Transitions back to sport??

Working with athletes

- We have up to a 3rd of young people (or more) who are significantly involved in sport
- Always have a some who compete at county level
- Smaller amount – nationally
- Due to age often not funded athletes
- Family life organised around child's career as athlete
- Training – sometimes before, during and after school

Eating Disorders in Sport

- Often over-looked
- Difficult to study – significant barriers to disclosure
- Prevalence (Sungot Bergan) –
 - ? 8% of male athletes
 - ?20% of female athletes



Prevalence

- Varies by sport
- Highest: Aesthetic sports and weight dependent sports (females up to 25%; males up to 17%)
- Once study suggested 42% in females in aesthetic sports
- Endurance sports (female 24%; males 10%)
- Highest at college age

Disordered eating

- Includes restricted eating, binge eating, excessive exercise, self-induced vomiting, laxative and diuretic use
- Male rowers – up to 12% had 2 binge eating episodes/week; 3% - self-induced vomiting

Some signs

- Rapid and significant weight fluctuations
- Epigastric pain/abdominal discomfort
- Dental problems
- Hair loss
- Low mood/poor concentration
- Cold
- Recurrent sore throats
- Stress fractures and other injuries

Eating disorders

- Anorexia Nervosa
- Bulimia Nervosa
- Binge Eating Disorder
- ARFID
- Dieting and disordered eating
- REDS (relative energy deficiency in Sport)

Co-morbidities

- May hide the eating disorder
- Depression, anxiety, OCD
- Suicidal ideation/self-harm
- Substance misuse (including performance enhancing drugs)

Qualities of Athlete vs Eating Disorder

Athlete

- Mental toughness
- Committed to training
- Pursuit of excellence
- Coachable
- Unselfishness
- Ability to perform through pain

Eating Disorder

- Ascetism
- Excessive exercise
- Perfectionism
- Over-compliance
- Selflessness
- Denial of discomfort

What makes an athlete successful

- Natural ability
- Optimal training
- High levels of motivation, persistence and commitment
- Optimal energy availability
- ? An element of luck – parental finances and time and commitment, remaining injury free,

Is the athlete training for performance or training to lose weight?

- Part of sports (training above and beyond planned schedule) - >1 hour/day or ?3 hours/day 6 days/week
- Compulsive/secretive exercise in abnormal setting – e.g. push ups/press ups/crunchies/star jumps in bathroom/bedroom
- Restless hyperactivity (standing instead of sitting, pacing, leg-shaking)

Compulsive exercise or normal training?

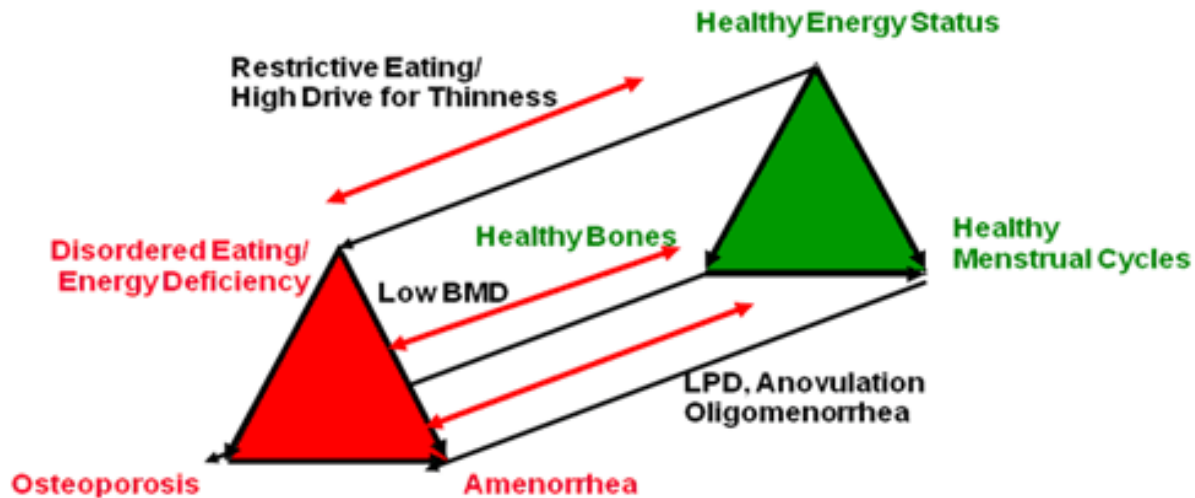
- What are athletes cognitions and attitudes towards exercise?
- Exercising to excess even when performance being harmed?
- Exercising more than prescribed?
- Exercising during illness/injury?
- Exercising to win or exercising to lose weight?

Is the athlete eating for performance
or eating to lose weight?



Female athletic triad

- Triad of:
 - Relative low energy availability
 - Amenorrhoea
 - Reduced bone mineral density



Male equivalent

- Also due to relative energy deficiency
- Low testosterone (about 40%) and low sperm count
- Particularly shown in light weight rowers, endurance athletes, cyclists, triathletes
- Bone injury
- Other markers – T3, leptin, IGF1.....
- (Tenforde, Barrack, Nattie, Fredericson (2015) Parallels with the female athlete triad in male athletes Sports Med)

Some criticism

- Focussed on bone health
- Failure to take into account: Cardiovascular problems (including reduced muscle perfusion), impaired skeletal muscle oxidative metabolism, GI and renal problems, CNS and psychiatric problems
- (De Souza et al 2014 Misunderstanding the female athlete triad U Nebraska Lincoln)

IOC Position statement

- Low energy availability to be avoided
- Discourage dieting – especially in young athletes
- Supplements do not compensate for an inadequate diet
- To discourage supplement use in young athletes
- Focus on nutrition to promote growth, development and healthy body composition

Eating disorders not generally detected early

- Significant barriers to disclosing an eating disorder or mental health problem – hard to create a culture of openness & awareness
- Coaches wanting to win rather than advocating health & well-being as top priority
- Sport can involve a focus on weight and body composition
- Coach parent relationship can impact – do parents or coaches think they can raise concerns early

Potential preventative interventions with coaches

- Coach education – normal growth and development (physical, psychological, social and nutritional needs)
- Rules – athletes must eat before training, not training during illness & injury
- Injury prevention strategies which acknowledge growth and development
- Awareness of mental health & self-confidence
- Positive behavioural strategies and approaches

Relationships and consistent messages

- MDT professionals (mental health, physical health)
- Coaches
- Athlete
- Family
- ?Team

Clearance and return to play

- Point scoring system 0 – low risk; moderate risk – 1; high risk 2 points
- Easier scoring for females with amenorrhoea
- Either: full clearance; partial clearance or complete restriction
- However – this based purely on physical measurements – need to take psychological into account as well
- (Joy, Kussman, Nattiv (2017) 2016 update on eating disorders in athletes: A comprehensive narrative review with a focus on clinical assessment and management BRJ Sports med 50:154-162)

Treatment targets

- Reversal of weight loss
- Return to a body weight associated with normal menses
- Energy intake $>2000\text{kCal/day}$ (need to take into account energy expenditure)

Elite athletes?

- Before serious training –
 - Physical recovery
 - Psychological recovery
 - Reduced risk of relapse



Some case examples

- Once there is a significant illness – treatment needed first and foremost.
- Family and young person and coach priority vs need to treat a very serious illness
- The good, the bad and the ugly....

Young athletes – a vulnerable group ?

- High levels of training from a young age – often before and/or after school
- High stakes involved with winning/making a squad
- Heavy investment in success by athlete, parents and coaches
- Comparisons with fellow athletes
- Eating for performance can look like odd/unusual

In addition

- School and other pressures – including peer pressure
- Growth and development
- A desire for optimal performance
- More awareness of physical appearance – especially in aesthetic sports
- Nutrition for performance – which can seem “abnormal”

Growth and development

- Puberty: physical changes from child's body to a body capable of reproduction
- Clear gender differences size, shape, composition and function
- Growth spurt - peak of 8cm/year (girls) 10cm/year (boys)
- Girls: onset +/- age 10, completed age 15 – 17
- Boys: onset +/-12/13 completed age 16 - 18



2010

Weight: 35kg

Height: 1.45m

BMI: 16.6

%mBMI:95%



2013

Weight: 53kg (increase of 18kg)

Height: 1.685 (increase of 21.5cm)

BMI: 18.6

mBMI:97%

Weight & Height changes

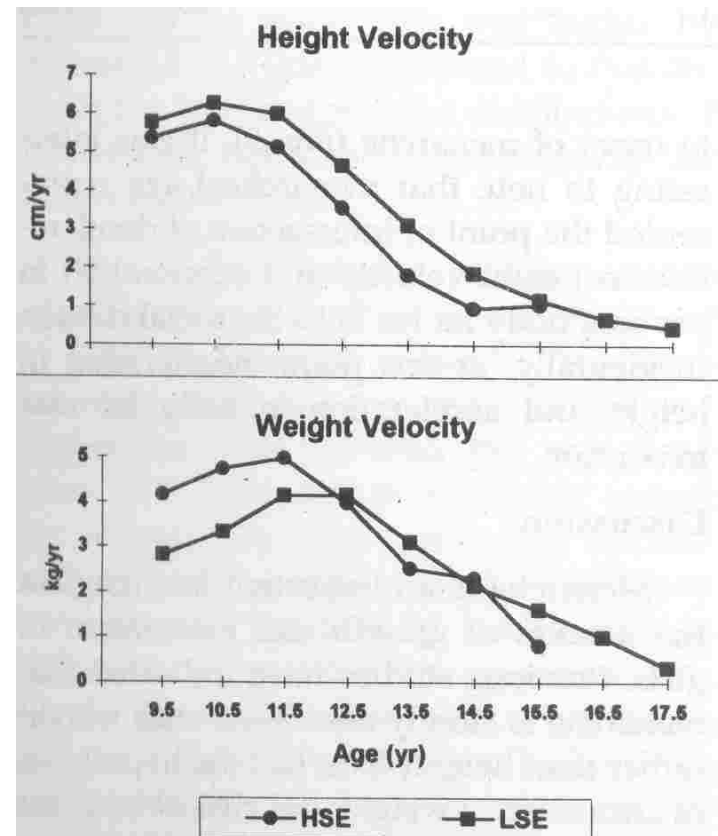
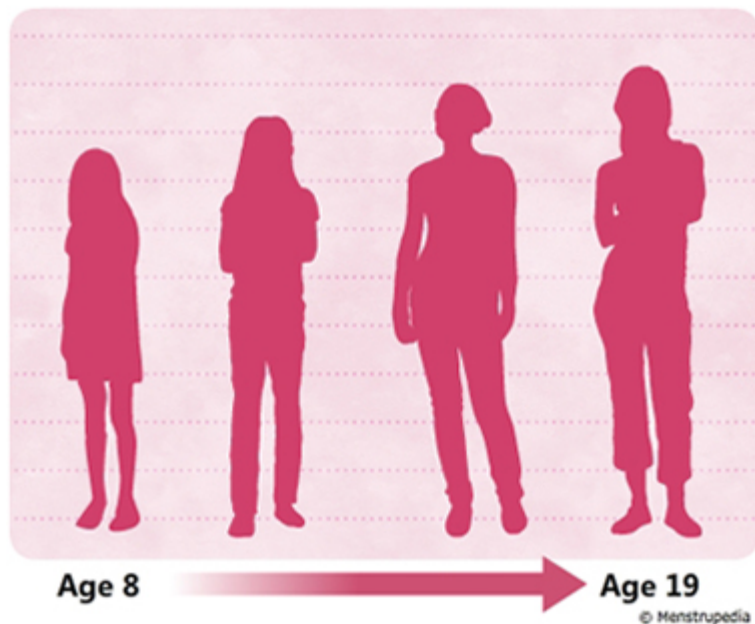


Fig. 4. Height and weight velocities by chronological age.



- Different rates of adolescent development
- Interaction between nutrition, weight, development and sporting performance
- Training – changes in training intensity
- Changes in females – higher body fat percentage, different shape
- Changes in males – more muscular – greater strength

For our young athletes

- Need age appropriate strategies for nutrition before, during and after training/competition
- Need to understand changes in shape before a growth spurt
- Appetite and energy needs increase during a growth spurt



Coaches, parents and athletes should understand

- Performance might be disrupted during a growth spurt
- Injury risks during growth spurts

Risks specific to athletes

- Desire to optimise performance rather than health
- Appearance focussed/aesthetic sports
- Clothing during sport which emphasises weight & shape

Risks specific to athletes

- Leanness associated with optimal performance in some sports
- A belief that performance will be improved by fat loss/change in weight

Individual risks

- Poor psychosocial/Interpersonal skills (? Think about hours of training/limited socialisation opportunities)
- Perfectionism
- Competition state anxiety
- Trait anxiety
- Mood intolerance

Coaching environment

- Coach attitudes and behaviours
- Winning at all costs mentality
- Focus and comments on weight/shape
- Unhelpful “healthy eating” and “training” advice
- Poor communication

Role of coaches

- 75% of athletes advised to “lose weight” by coaches will develop disordered eating
- Ignoring the children who are “second best”
- Ignoring any potential difficulties/vulnerability/risks
- Dissuading parents from seeking advice

Identifying compulsive exercise

- Can be one of the first symptoms/sign of eating disorder
- Association with body image dissatisfaction

Exercise dependence in absence of ED?

- Little information about this in literature
- Associated with other psychiatric co-morbidity- e.g. OCD

Compulsive exercise

- Physical activity that is associated with disordered eating attitudes and behaviours
- Subjective sense of being driven or compelled to exercise
- Inability/unwillingness to stop

- Priority over other aspects of life
- Associated with negative affect if it is missed
- Continues despite evidence of harm
- Rigid/inflexible and often solitary

Compulsive exercise

- Fear grounded in beliefs and assumptions around metabolism/weight
 - “if I gain weight and I’m not exercising it will all be fat”
- Fear maintained by “safety behaviours”
- Role of weight and shape concerns but also affect regulation

Other considerations

- Increased training in an athlete creating inadvertent weight loss?
- Exercise as part of narcissistic investment in the body?
- Exercise leading to reduced appetite & weight loss
- Exercise to manage negative affect?

Other aspects to consider

- Level of Commitment to exercise (maintained in face of adverse conditions)
- Exercise as an aid to further weight loss/ calorie expenditure
- Safety behaviour
- Avoidance of negative affect
- ? Motivation to recover/part of new healthy recovery life-style

Impact?

- Difficult to assess – under-reporting
- High level exercises – increased resting energy expenditure and increased daily energy expenditure
- Longer hospitalisations
- Longer recover
- Quicker relapse
- Increase suicidality

Useful references

- **Thompson RA, Sherman RT (2010) Eating Disorders in Sport – Routledge**
- **Powers P; Thompson R (2008) The Exercise Balance**
- **Currie A (2010) Sport and Eating Disorders – Understanding and managing the risks**
- **Yates A (1991) Compulsive exercise and eating disorders – towards an integrated theory of activity Bruner/Mazel**
- **Beal K (2004) Disordered Eating among athletes – A comprehensive guide for health professionals**
- **Eating disorders review 19(2011) – whole issue**
-