Focus Area 1 Health In an Australian and Global Context

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Focus Area 2 Training For Improved Performance

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Summary Focus Area 1 Health In an Australian and Global Context.

1.1 How healthy are Australians?

This section provides an overview of Australia's health status, comparing it globally and highlighting areas of concern, such as chronic disease and population-specific inequities.

1.1.1 Australia's health status: key epidemiological measures.

- **Key terms include:**
  - **Morbidity:** The incidence or prevalence of a disease or illness in a population.
  - **Mortality:** The number of deaths in a population during a specified period.
  - **Life expectancy:** The average number of years a person is expected to live based on current mortality rates.
  - **Prevalence:** The total number of cases of a disease existing in a population at a specific time.
  - I**ncidence:** The number of new cases of a disease occurring in a specific time period.
- **Leading causes of illness and death (CVD and cancer data).**
  - **Prevalence:** Both are highly prevalent. Many Australians live with some form of heart condition or have a history of cancer.
  - **Incidence:** The number of new cases (incidence) for many cancers is high and generally increasing, partly due to the **ageing population** and improved detection. New cases of **CVD** remain a major issue.
  - **Mortality rates:** Mortality rates for both CVD (e.g. heart attacks, stroke) and many common cancers (e.g. breast, bowel) have generally **declined** over the past few decades due to better diagnosis, treatment, and public health campaigns.
- **Major causes of morbidity (illness/disease):**
  - **Chronic conditions:** Cardiovascular diseases, cancers, mental and behavioural conditions (e.g. anxiety, depression), musculoskeletal conditions (e.g. arthritis), diabetes, and chronic respiratory diseases (e.g. asthma, COPD).
- **Major causes of mortality (death):**
  - **Leading causes:** Coronary heart disease, **dementia** (including Alzheimer's disease), cerebrovascular diseases (stroke), lung cancer, and chronic lower respiratory diseases.
- **Effect on life expectancy:**
  - Australia has one of the **highest life expectancies globally**.
  - Females generally have a higher life expectancy than males, though the gap is narrowing.
  - The prevalence of chronic diseases (morbidity) impacts quality of life and places a significant burden on the health care system, potentially capping further significant increases in life expectancy.

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1.1.2 Health inequities (Aboriginal and Torres Strait Islander peoples).

- **Key concept:** Focuses on the **unfair and avoidable differences** in health status between different population groups.
    - Examines how sociological factors and social determinants of health influence risky health behaviours and lead to disparities, especially for **Aboriginal and Torres Strait Islander peoples**.
- **Comparison (Indigenous health status):**
    - The health status of Indigenous Australians is significantly worse than the non-Indigenous population.
    - They experience a shorter life expectancy (a gap of approximately **8 years** for both males and females) and higher rates of preventable hospitalisations.
- **Historical and ongoing determinant:**
    - **Colonisation** is identified as a historical and ongoing determinant of poor health outcomes for Indigenous Australians.
- **Contributing factors to higher hospitalisation rates:**
    - Socioeconomic disadvantage: Lower rates of educational attainment, employment, and income are linked to higher rates of modifiable risk factors (e.g. smoking, poor diet) and limited access to primary care, meaning conditions progress further before treatment.
    - Historical trauma and colonisation: The cumulative effect of dispossession, forced separation from family, and ongoing systemic racism results in a higher burden of stress, trauma, and mental health issues, profoundly impacting physical health.
    - Access to health care: Indigenous communities, particularly those in remote areas, face geographical barriers to specialist and primary health services. Where services exist, they may not be culturally safe or appropriate, leading to avoidance or late presentation for care.
    - Environmental factors: Poorer quality housing, overcrowding, and lack of essential services (e.g. clean water) contribute to higher rates of infectious diseases and chronic conditions.
    - Later diagnosis and poor chronic disease management: Due to the above barriers, chronic conditions are often diagnosed later and managed less effectively, leading to complications that require more frequent or urgent hospital care (hence, 'potentially preventable hospitalisations' are higher).

1.1.3 Sociological factors (social determinants of health).

- **Key concept:** Sociological factors (e.g., social class, gender, ethnicity) create a **social gradient in health**, where those with lower socioeconomic status generally experience poorer health outcomes.
- **Poverty and income:** Low income restricts access to nutritious food, adequate housing, and often preventive health services (e.g. dental care, specialists).
- **Education:** Lower levels of education often correlate with lower **health literacy** (ability to understand health information) and less stable, lower-paying jobs, increasing exposure to risk factors.
- **Geographical location:** People in remote and rural areas often have **limited access** to health care professionals, specialist services, and health infrastructure, resulting in poorer outcomes.
- **Social isolation/support:** Lack of strong social networks can negatively impact **mental health** and reduce the likelihood of seeking help.
- **Discrimination and racism:** Systemic racism, particularly against Indigenous Australians, leads to chronic stress, trauma, and reduced access to resources, driving profound health inequities.

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2.2.2 How can the principles of training be applied to both aerobic training and strength training?

2.2.2.1 Case study – Applying the principles of training to aerobic and strength training

Sarah is a 30 year old amateur athlete who has been training for a half marathon while also incorporating strength training to improve her overall fitness. She has been following a training program for six months, aiming to enhance both her cardiovascular endurance and her muscle strength. Sarah's training regimen includes long distance runs, interval training for her aerobic fitness, and weight lifting sessions for strength development.

Sarah gradually increases the intensity and duration of her runs each week to challenge her cardiovascular system and ensure continued improvements. For strength training, Sarah slowly increases the weight she lifts each week to stimulate muscle growth and strength development.

To prevent boredom and reduce the risk of overuse injuries, Sarah alternates between running sessions, interval training, and different strength exercises. This keeps her program interesting and ensures balanced muscle development.

(a) How does Sarah apply the principle of specificity to her training?

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(b) How does Sarah apply the principle of progressive overload to improve both her aerobic fitness and strength?

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(c) How does Sarah implement variety in the program? What are the major reasons for this?

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(d) How could reversibility affect Sarah's performance if she were to stop training for a period of time?

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(e) Explain training thresholds and show how Sarah could use this to help manage her program.

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2.3.1.5 Explain why a post-game reflection from an athlete and an evaluation from a coach is important.

2.3.1.6 Referring to examples, explain health and safety considerations when designing training sessions for individual sports and group sports and describe the impact this has on injury prevention.

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2.4 What impact do sleep, nutrition, and supplementation have on movement and performance?

2.4.1 What are the dietary requirements and fluid intake requirements needed for different sports?

2.4.1.1 Outline the pre-event meal for a marathon runner.

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2.4.1.2 How much fluid should a marathon runner consume during an event and post-event?

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2.4.1.3 Explain the importance of post-performance nutrition, including hydration, in the recovery process.

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2.5.4.5 Why is a return to play policy important for athletes recovering from injuries? Use examples.

2.5.4.6 How does the management and rehabilitation of injuries, such as through progressive mobilisation and graduated exercise improve an athlete's recovery time?

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