



Introduction to Fitness and Training and Its Importance in Dance

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Lecture 1 Outline



Welcome and
Introductions



Objectives



Assessment



Introduction to
fitness for Dance



Physical demands
of dance



Components of
fitness (definitions &
factors affecting)



Introduction to Fitness and Dance

- **Objective:** Understand the importance of fitness and training in dance including the key components of fitness and principles of training.

Assessment

- Group Presentation
- Outline the importance of fitness and training for dancers.

Provide an overview of key components of fitness associated with dance and include examples of how dancers could train and develop these. In doing so, show how the principles of training have been considered.

Key terms

Physical Activity - *‘any bodily movement produced by the contraction of skeletal muscles that results in a substantial increase in caloric requirements over resting energy expenditure’*

Exercise - ‘a type of PA consisting of planned, structured, and repetitive bodily movement done to improve and/or maintain one or more components of physical fitness’

Physical Fitness

‘the ability to carry out daily tasks with vigour and alertness, without undue fatigue, and with ample energy to enjoy leisure-time pursuits and meet unforeseen emergencies’

Generally divided into health-related and skill-related components.

Physical Demands of Dance

Task – in small groups, think and make brief notes about the physical demands of dance.

Components of Fitness



Health-related physical fitness components

Cardiorespiratory endurance

Body Composition

Muscular Strength

Muscular Endurance

Flexibility

Skill-related
physical
fitness
components

Agility

Coordination

Balance

Power

Reaction time

Speed



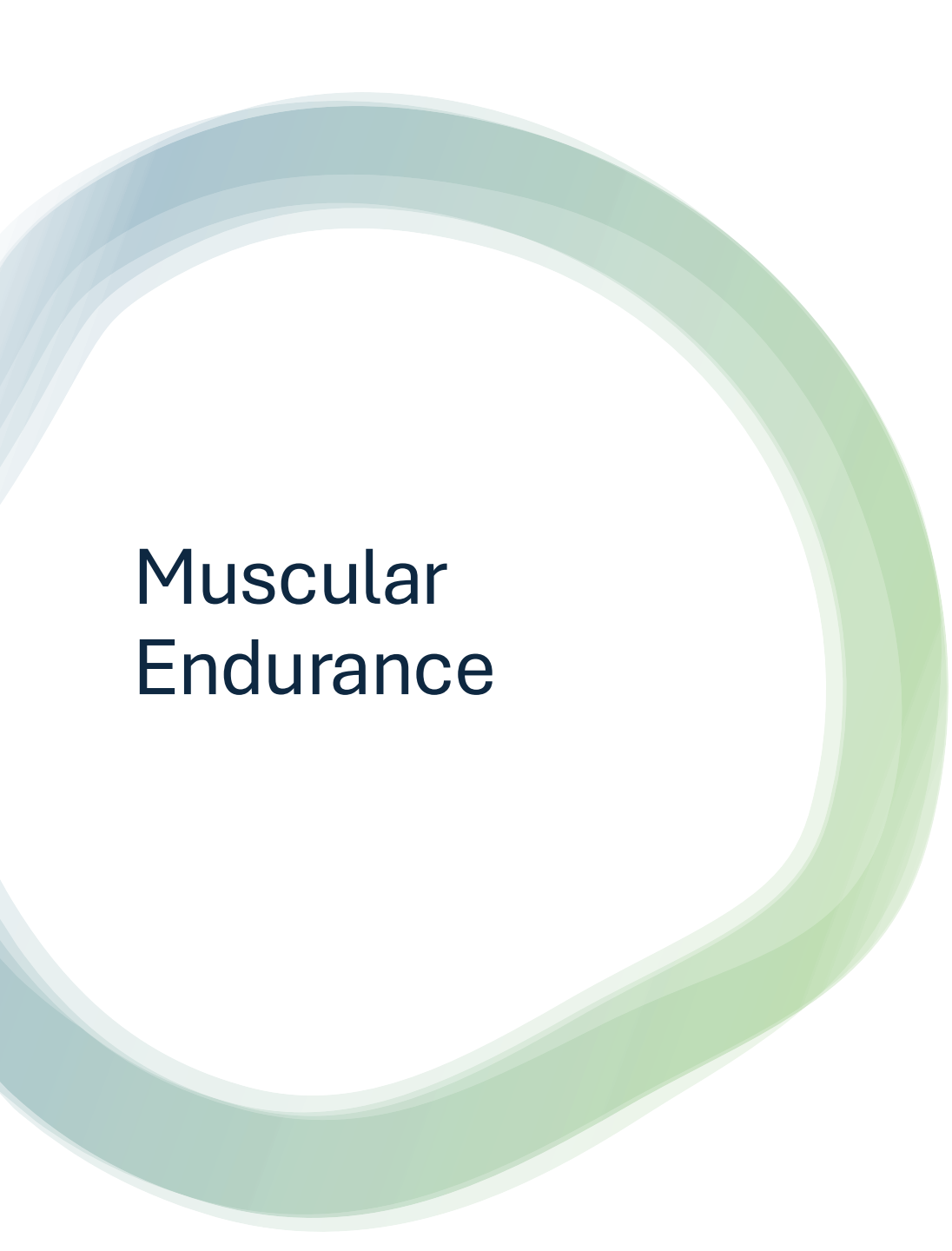
Strength

- Maximum muscular strength (low-speed strength)
 - Related to the force a muscle or muscle group can exert in one maximal effort
 - Generally tested via 1-repetition maximum (1RM) in a particular lift



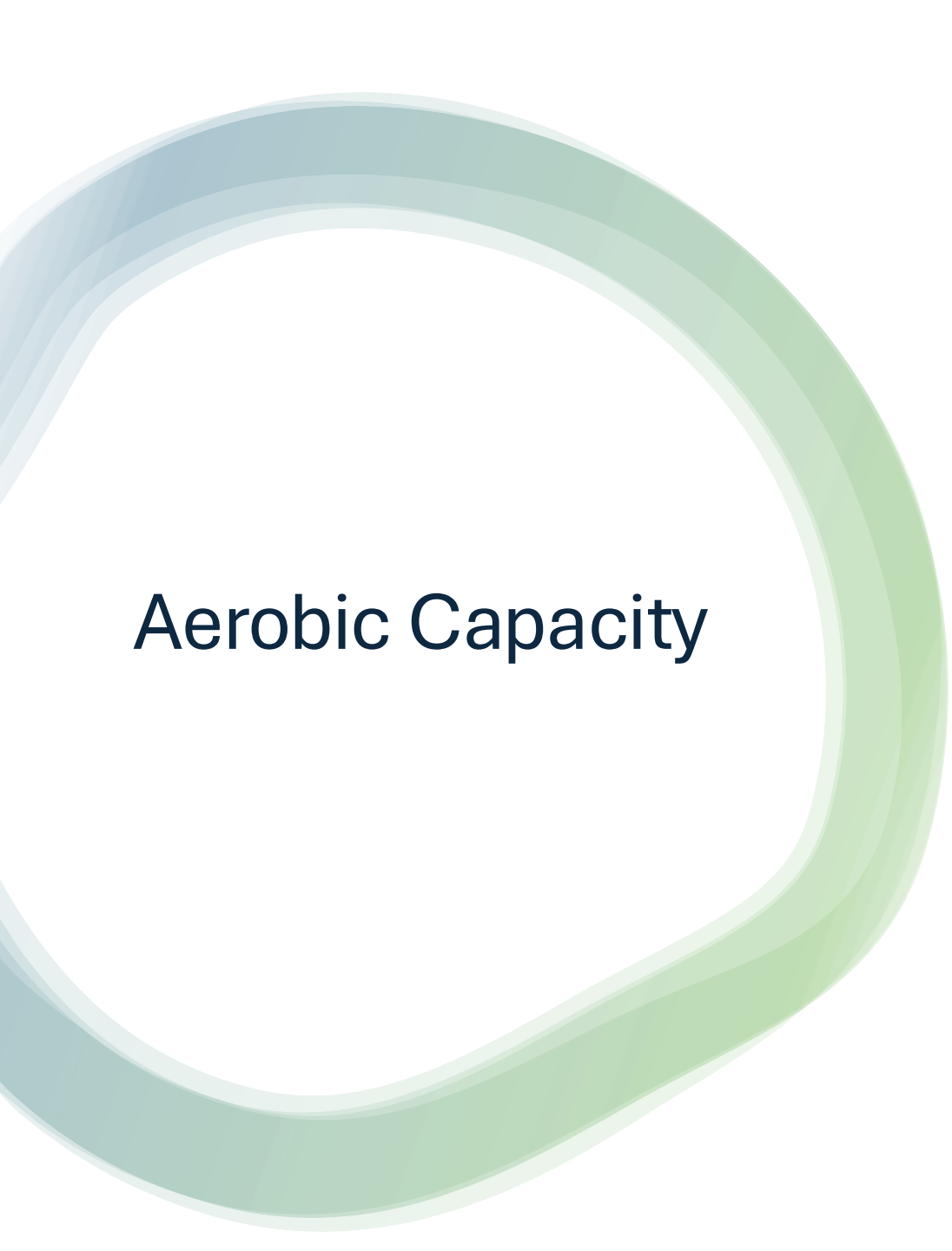
Muscular Power

- Anaerobic or maximum muscular power (high-speed strength)
 - Related to the ability of muscle tissue to exert high force while contracting at a high speed (also called *maximal anaerobic muscular power* or *anaerobic power*)
 - May include vertical jump height and time to sprint up a staircase



Muscular Endurance

- Anaerobic capacity
 - Maximal rate of energy production by the combined phosphagen and anaerobic glycolytic energy systems for moderate-duration activities
- Local muscular endurance
 - Ability of certain muscles or muscle groups to perform repeated contractions against a submaximal resistance



Aerobic Capacity

- Aerobic capacity
 - Maximum rate at which an athlete can produce energy through oxidation of energy resources (carbohydrates, fats, and proteins)
 - Usually expressed as a volume of oxygen consumed per kilogram of body weight per minute (i.e., $\text{ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$); also called *aerobic power*



Agility

- Agility
 - The ability to change direction or speed of the whole body in response to a sport-specific stimulus
 - Agility testing is generally confined to physical capacity testing such as change-of-direction speed or cognitive components such as anticipation.



Speed, Flexibility & Balance

- Speed
 - Movement distance per unit time, typically quantified as the time taken to cover a fixed distance
- Flexibility
 - Range of motion about a body joint
- Balance and stability
 - Balance: The ability to maintain static and dynamic equilibrium
 - Stability: The ability to return to a desired position following a disturbance to the system



Body Composition

- Body composition
 - Relative proportions by weight of fat and lean tissue
- Anthropometry
 - The science of measurement applied to the human body
 - Generally includes measurements of height, weight, and selected body girths