

Periodization

Chapter 22

What is periodization?

- Periodization is planned long-term variation of the volume and intensity of training to prevent overtraining and promote optimal performance at the desired time.

Defining Volume and Intensity

- Volume- amount of work performed per exercise, per day, per month (sets x reps)
- Intensity- the power output of the exercise (power = work/time)

Estimating Volume and Intensity

- Training intensity- Average mass lifted per exercise, per week, per month
- Exercise intensity- Monitored by calculating the relative intensity (% of 1rm)
- Training volume- estimated by volume load
- Exercise volume- estimated by average weight lifted

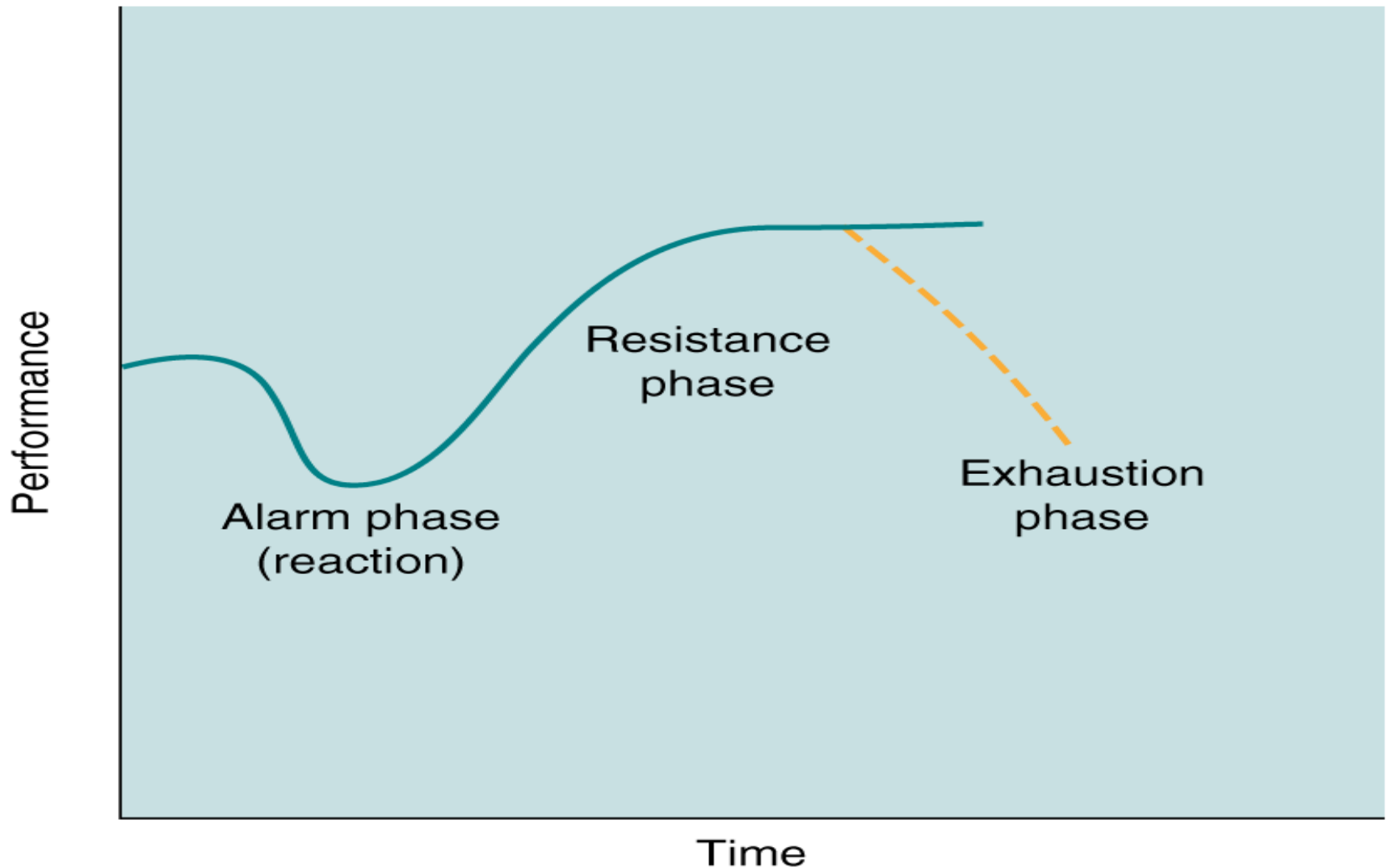
Selye's General

Adaptation

Syndrome

- Alarm phase
- Resistance phase
(supercompensation)
- Exhaustion phase

The General Adaptation Syndrome (GAS)



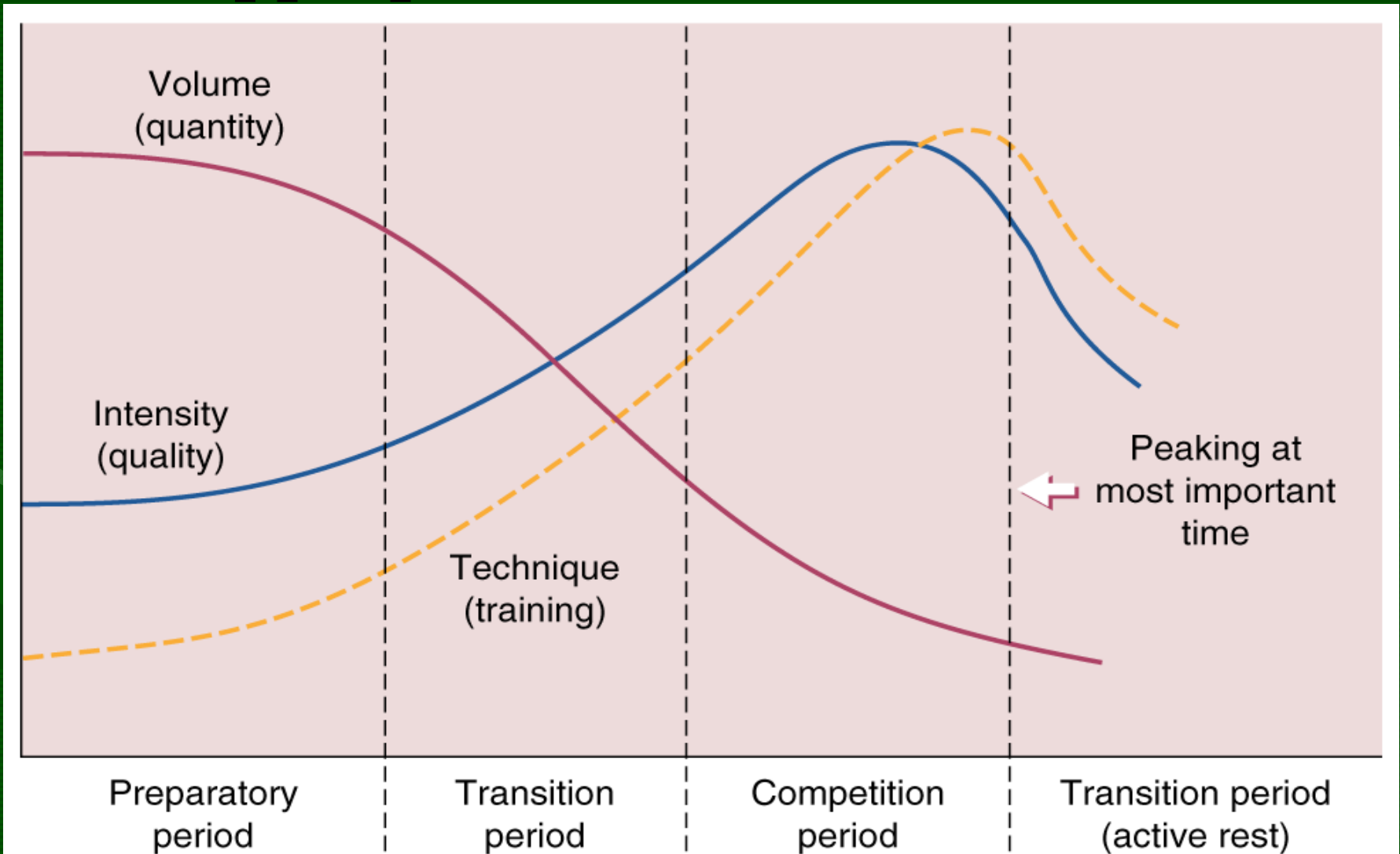
Periodization Cycles

- Macrocycle-long period of time, one year
- Mesocycle- medium length of time, several weeks to several months
- Microcycle- short length of time, one or more weeks

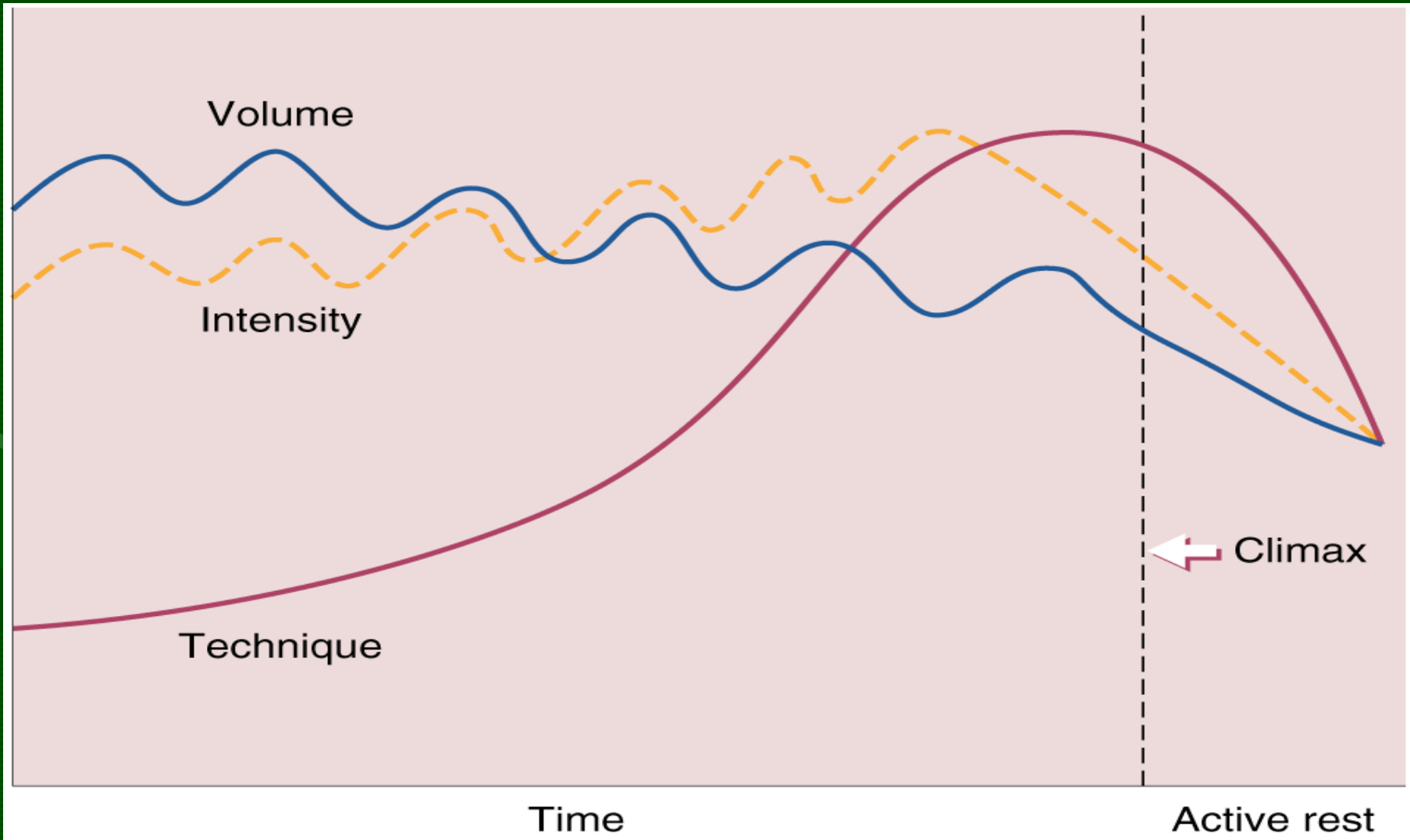
KEY POINT

Periodization involves shifting training priorities from non-sport-specific activities of high volume and low intensity to sport-specific activities of low volume and high intensity over a period of many weeks to prevent overtraining and optimize performance.

Matveyev's Model of Periodization: Appropriate for Novice Athletes



Modifications of Matveyev's Model of Periodization; for Advanced Athletes



Periodization Periods

- Preparatory-
- Transition-
- Competition-
 - Maintenance-
 - Peaking
- Active rest-

Preparatory Phase

- Hypertrophy/endurance phase- low to moderate intensity (50-75% 1rm) and high to moderate volume (3-6 sets, 10-20 reps)
- Basic strength phase- high intensity (80-90% 1rm) and moderate volume (3-5 sets, 4-8 reps)
- Power phase- high intensity (75-95% 1rm) and low volume (3-5 sets, 2-5 reps)

Hypertrophy Phase (1)

- Phase 1 = Hypertrophy/Endurance Phase
 - Highest volume (3-5 sets, 8-12 reps)
 - Lowest intensity (50% to 75% of 1RM)
 - Lasts up to 6 weeks (Based on program goals & level of athletes conditioning)
 - Establish neural & muscular base (adaptations)
 - Low intensity aerobic activity
 - Agility progression
 - Flexibility progression

Strength Phase (2)

- Phase 2 = Strength Phase
 - Moderate volume (3-5 sets, 5-8 reps)
 - Intensity (80% to 88% 1RM)
 - Moderate intensity aerobic activity
 - Moderate intensity plyometric training (Levels 1-5)
 - More complex lifts first
 - Multiple joint movements before single joint
 - Agility & flexibility progression
 - Towing/Downhill activities (Speed development)
 - Recovery times between sets based on energy systems ratios

Power Phase (3)

- Phase 3 = Power Phase
 - Low volume (3-5 sets, 2-4 reps)
 - High intensity (90% to 95% 1RM)
 - Full recovery between sets (energy systems ratios)
 - High intensity aerobic activities & plyometrics
 - Power moves – multi-joint
 - Plyometric drills separate from RT days
 - Agility & flexibility progression
- The goal is to PEAK right before competition begins

Transition Phase

- Modification to Matveyev's original periodization model, break between high volume training and high intensity training

Competition Period

- Ideally 2-3 weeks max
- In sports with long season, may last months
- Peaking- very high intensity ($>93\%$ 1rm) and very low volume (1-3 sets, 1-3 reps)
- Maintenance- moderate intensity (80-85% 1rm) and moderate volume (2-3 sets, 6-8 reps)

Active Rest

(second transition)

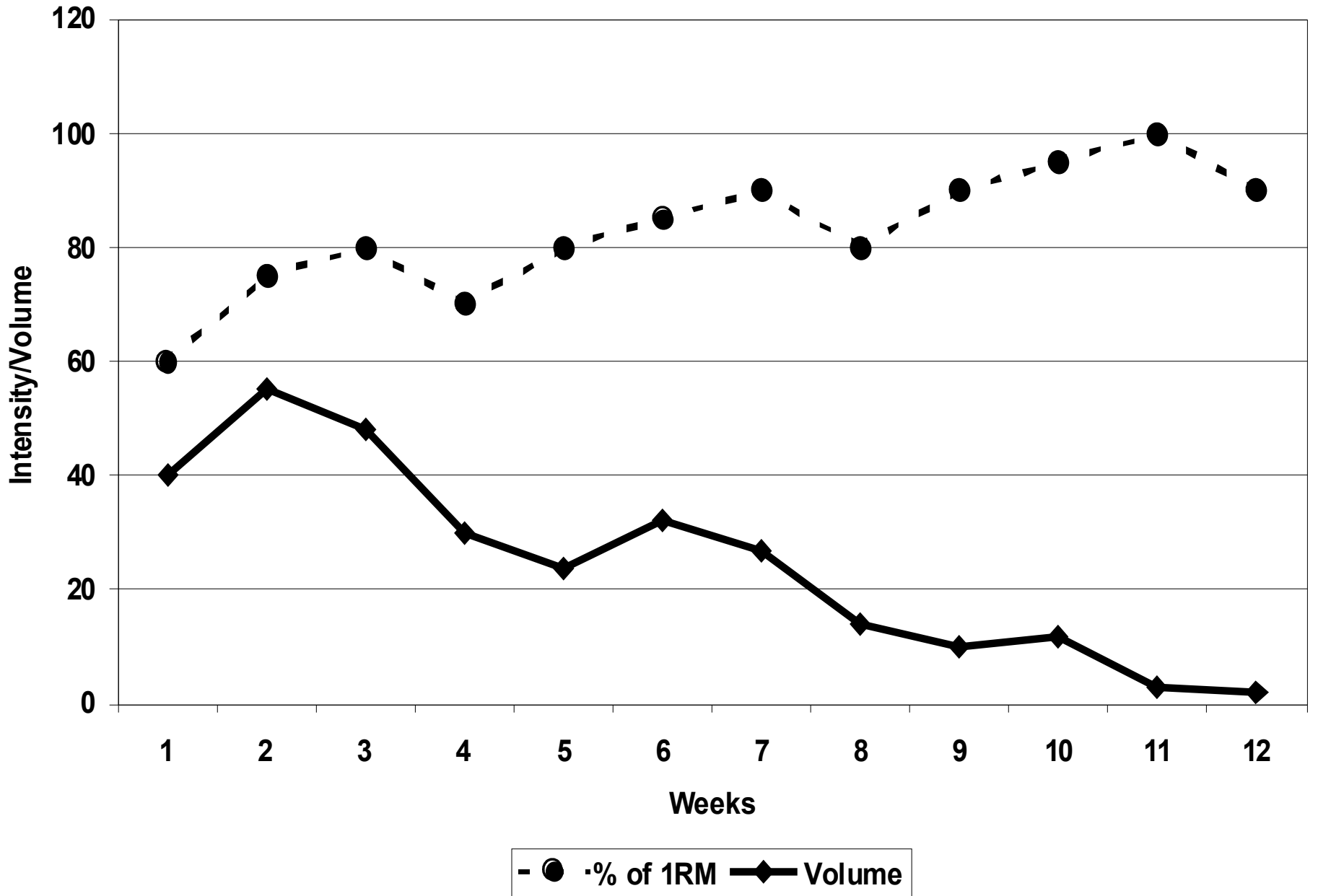
- Restoration
- Remain physically active
- Lasts 1-4 weeks
- Mental and physical break from sport

KEY POINT: Periodization Models

The traditional model is commonly referred to as *linear* due to the gradually progressive microcycle increases in intensity over time.

The *undulating* or *nonlinear* model involves large daily (i.e., within the week or microcycle) fluctuations in the load and volume assignments for core exercises.

PERIODIZATION



Tonight & Next Class

- Periodize a 12 week program
- Use perfect athlete
- PowerPoint presentations
- 10-15 minutes