اصول طراحی تمرینات پس از آسیب دیدگی

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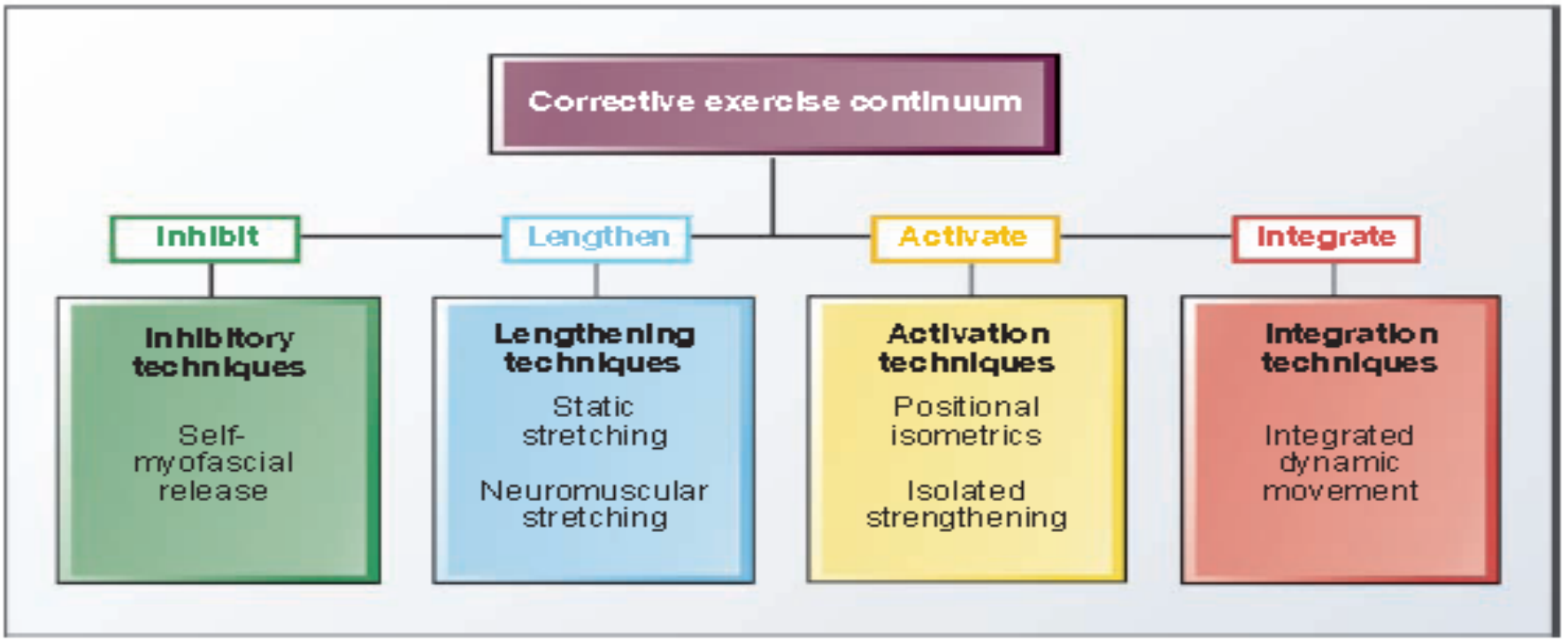
عضو هیئت علمی دانشگاه آزاد اسلامی- واحد تهرا ن جنوب

NASM Essentials of Corrective Exercise Training

National Academy of Sports Medicine



Inhibitory techniques: corrective exercise techniques used to release tension or decrease activity of overactive neuromyofascial tissues in the body.

Lengthening technique: corrective exercise techniques used to increase the extensibility, length, and range of motion (ROM) of neuromyofascial tissues in the body.

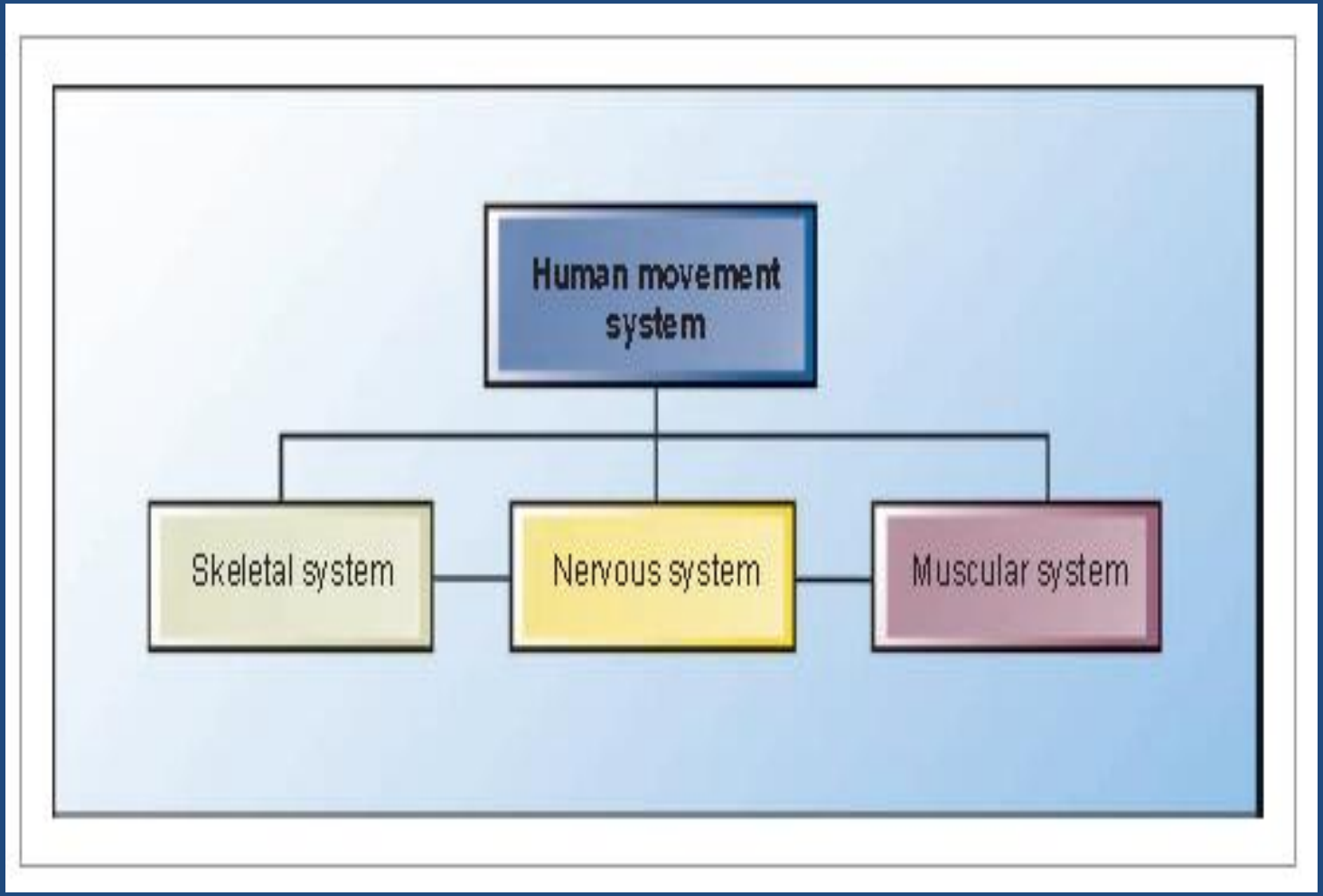
Activation techniques: corrective exercise techniques used to reeducate or increase activation of underactive tissues.

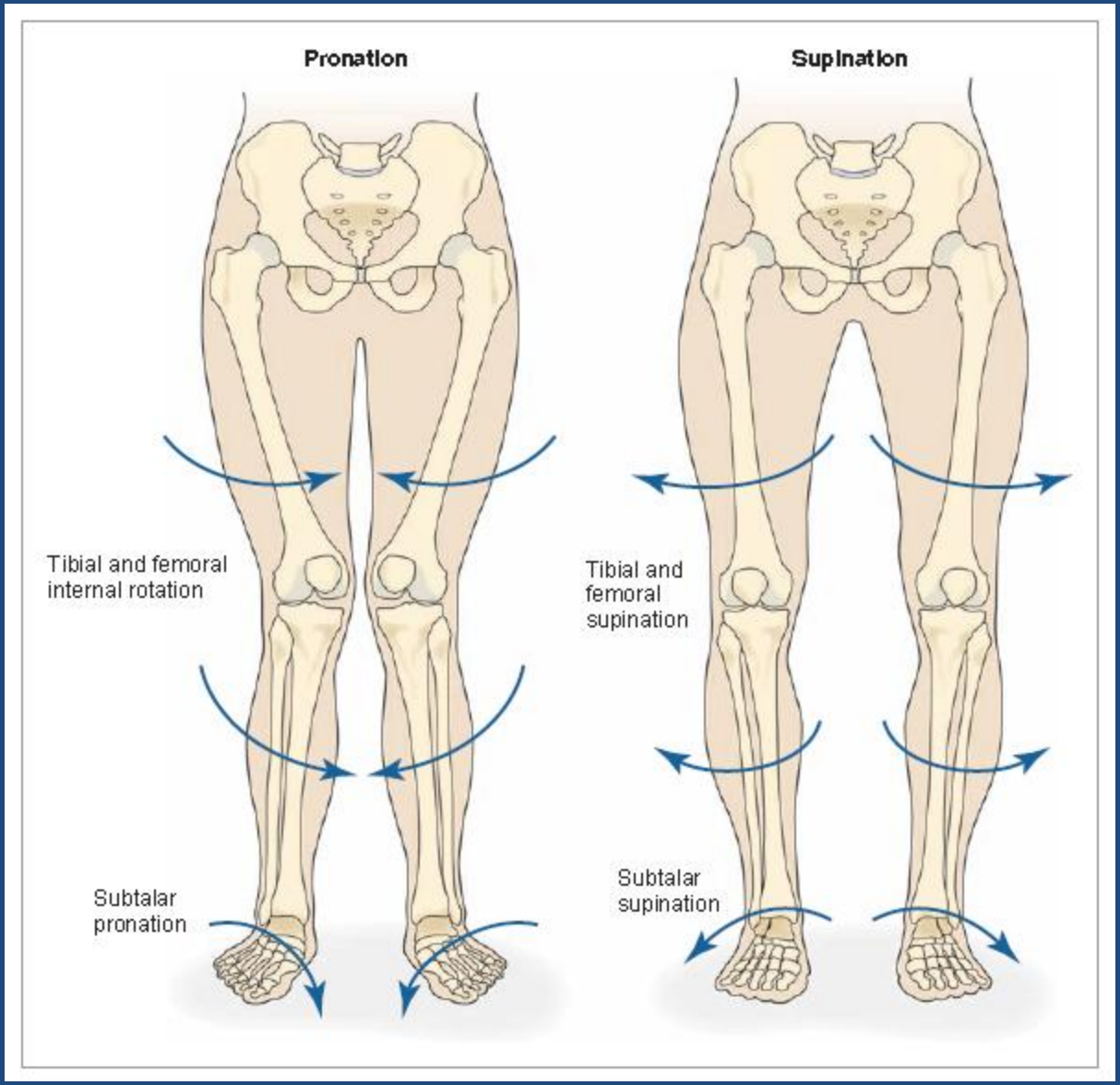
Integration techniques: corrective exercise techniques used to retrain the collective synergistic function of all muscles through functionally progressive movements.

Collectively, the three-step process is to:

1. Identify the problem (integrated assessment)
2. Solve the problem (corrective program design)
3. Implement the solution (exercise technique)

Before implementing the Corrective Exercise Continuum, an integrated assessment process must be done to determine dysfunction and ultimately the design of the corrective exercise program. This assessment process should include (but not be limited to) movement assessments, range of motion assessments, and muscle strength assessments. This integrated assessment process will help in determining which tissues need to be inhibited and lengthened and which tissues need to be activated and strengthening through the use of the Corrective Exercise Continuum. These assessments will be covered in greater detail in the Assessment section of this textbook.


Human movement system
Skeletal system
Nervous system
Muscular system


Pronation
Supination
Tibial and femoral internal rotation
Subtalar pronation
Tibial and femoral supination
Subtalar supination

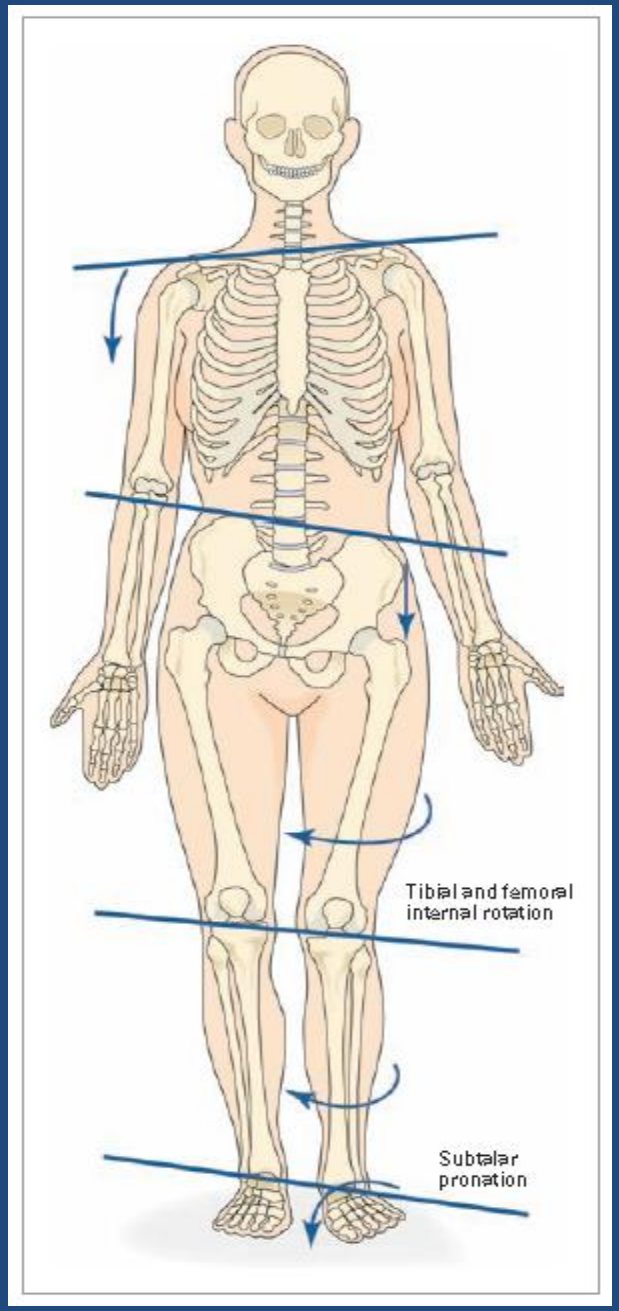
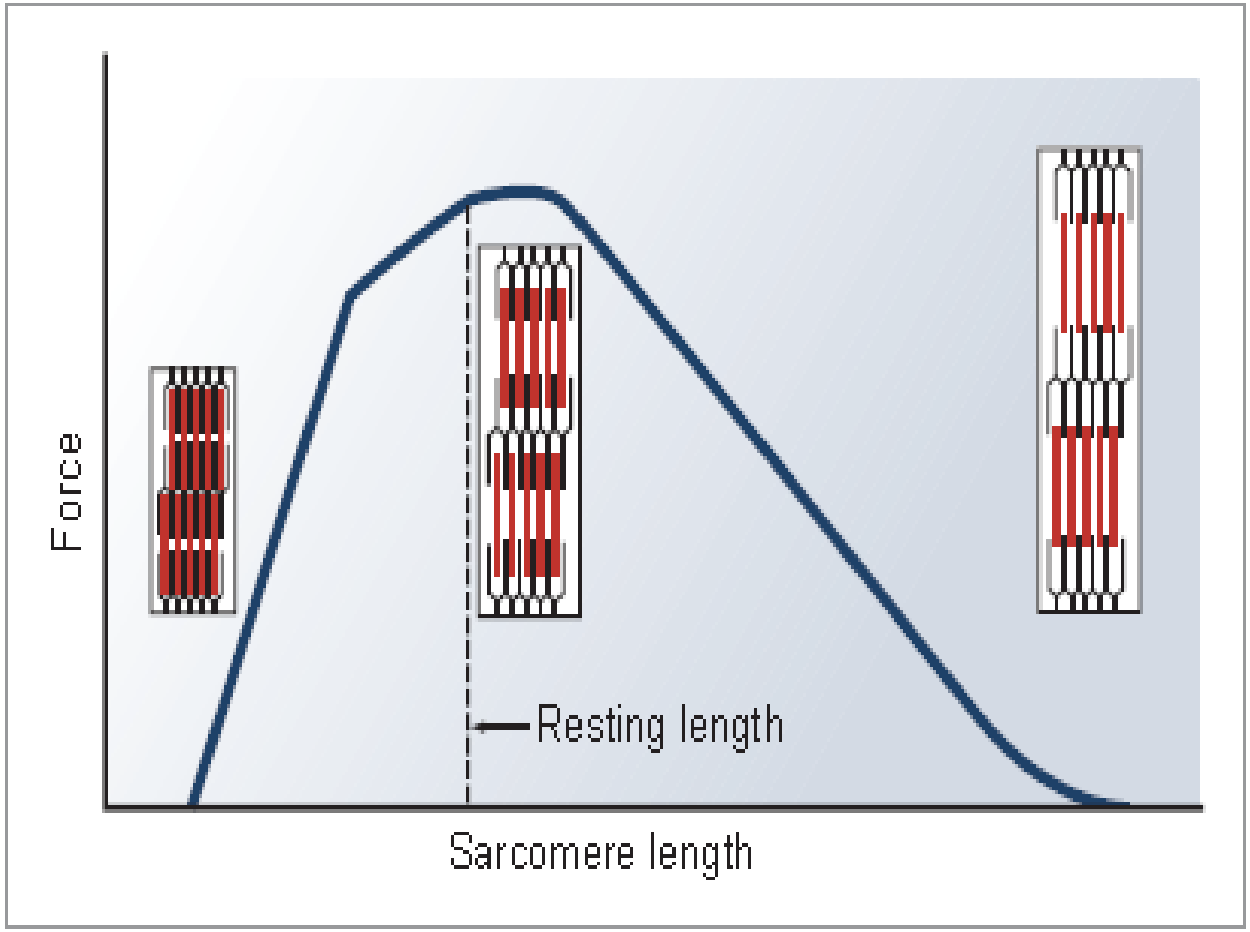

Tibial and femoral
internal rotation
Subtalar
pronation

Table 2.3 MUSCLE ACTION SPECTRUM

Concentric	Developing tension while a muscle is shortening; when developed tension overcomes resistive force
Eccentric	Developing tension while a muscle is lengthening; when resistive force overcomes developed tension
Isometric	When the contractile force is equal to the resistive force

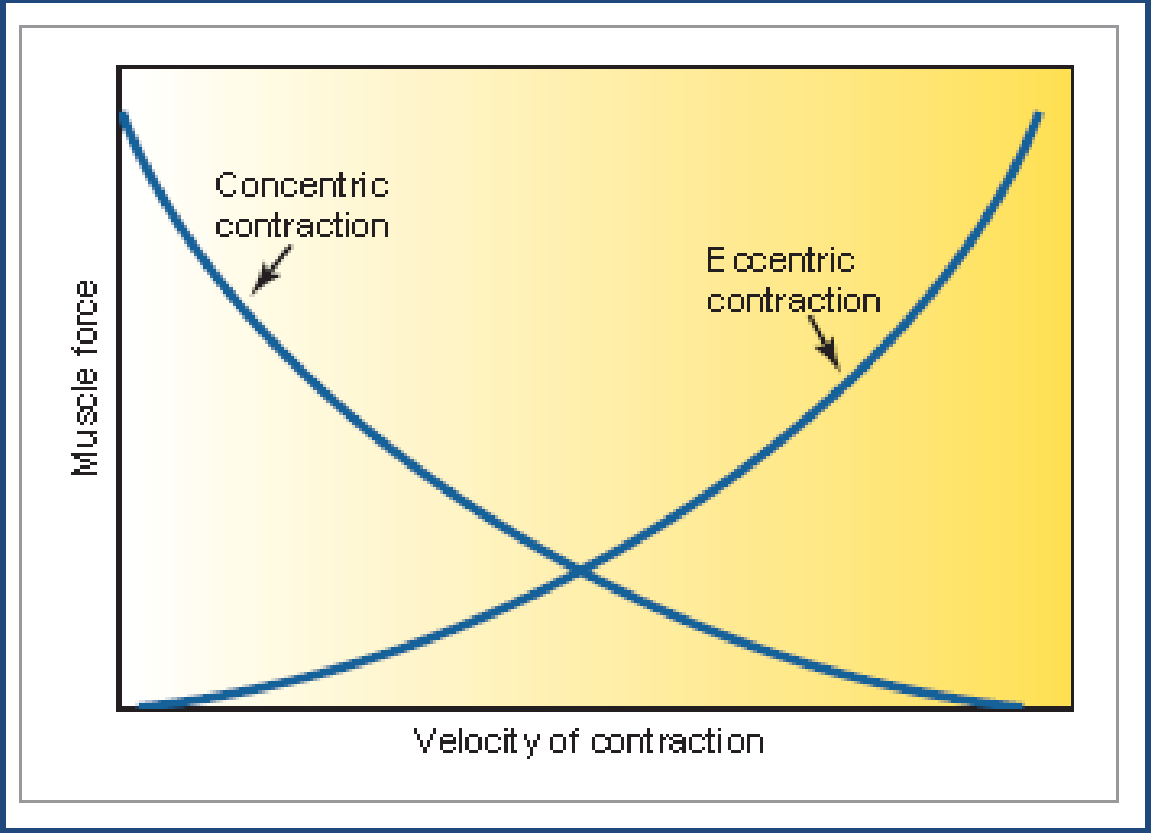
LENGTH-TENSION RELATIONSHIPS

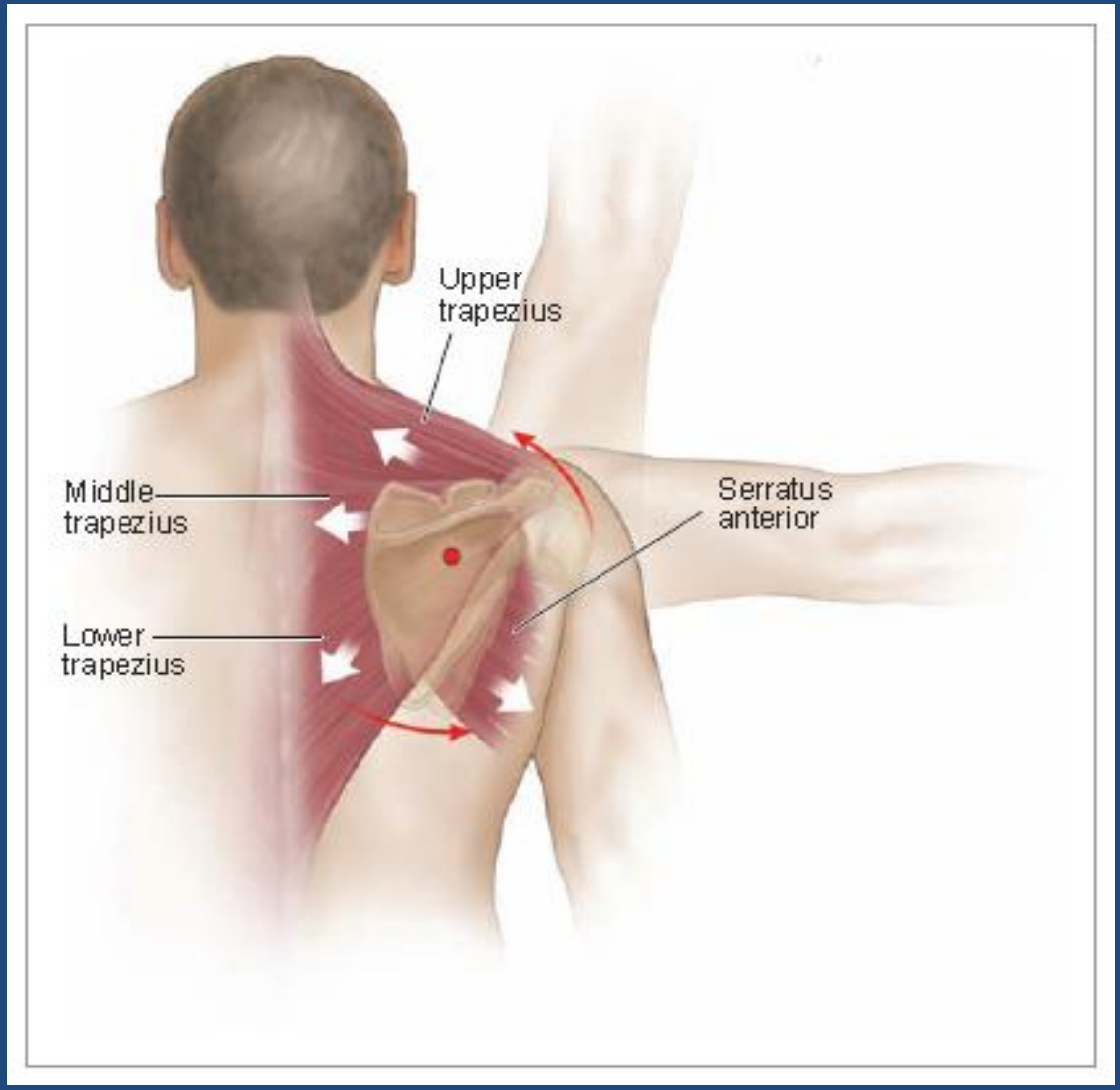
Length-tension relationship: the resting length of a muscle and the tension the muscle can produce at this resting length.



FORCE-VELOCITY CURVE AND FORCE-COUPLE RELATIONSHIPS

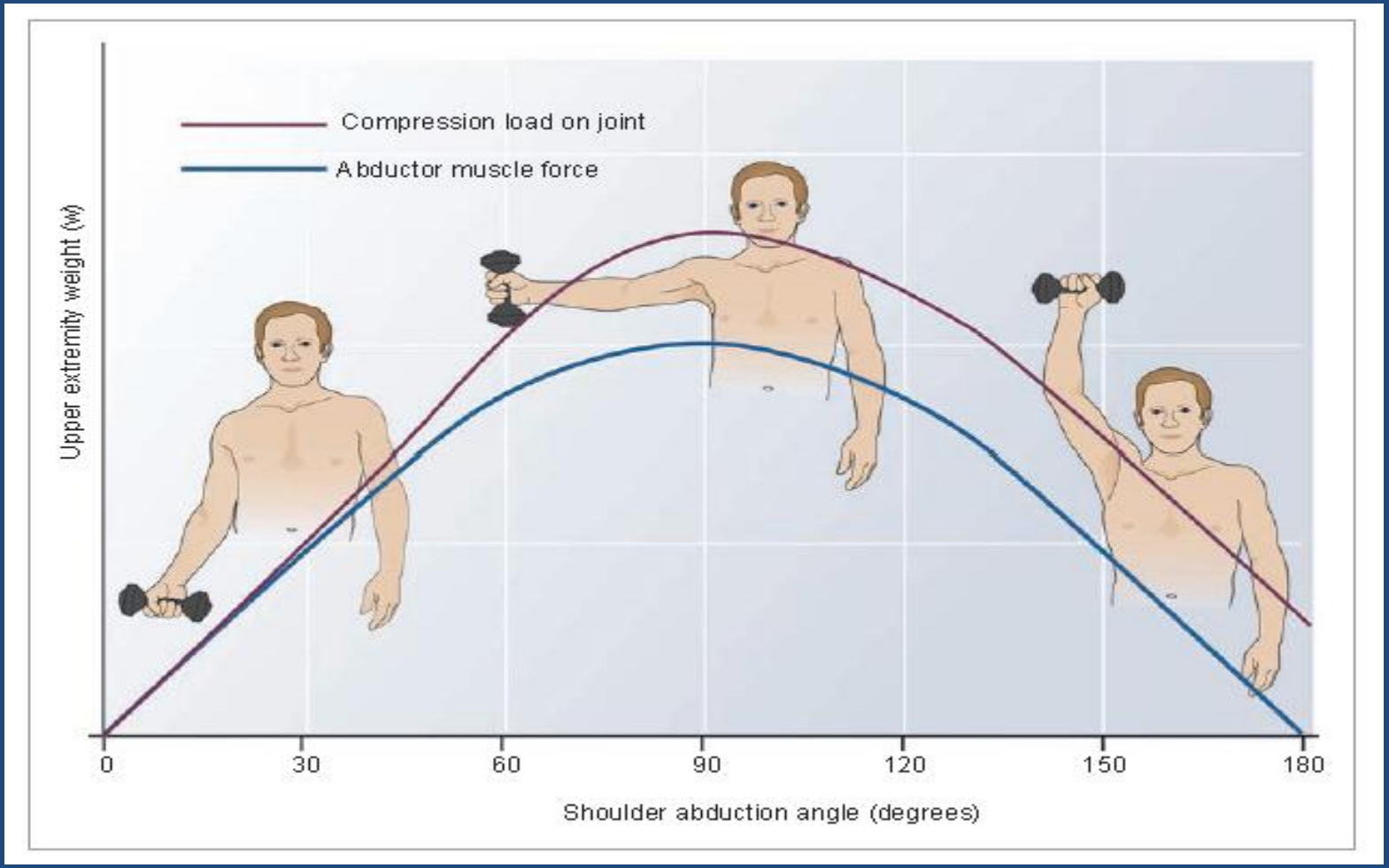
Force-velocity curve: the relationship of a muscle's ability to produce tension at differing shortening velocities.




Upper
trapezius
Middle
trapezius
Lower
trapezius
Serratus
anterior


Optimal neuromuscular control
Normal length-tension relationships
Normal force-couple relationships
Normal joint arthrokinematics
Optimal sensorimotor integration
Optimal neuromuscular efficiency
Optimal tissue recovery

Load and torque relationship.



FUNCTIONAL ANATOMY

Agonists: muscles that act as prime movers.

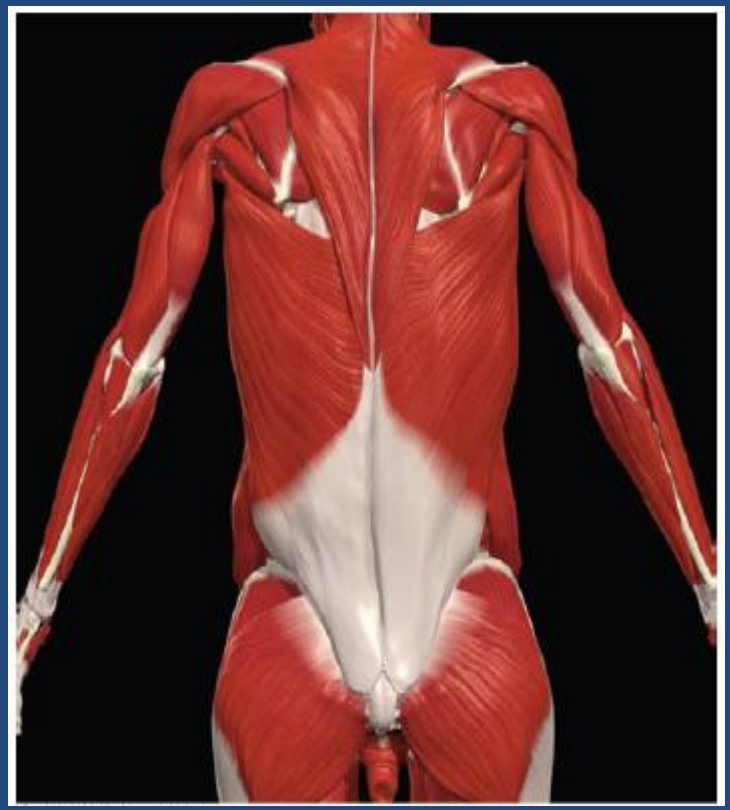
Antagonists: muscles that act in direct opposition to prime movers.

Synergists: muscles that assist prime movers during functional movement patterns.

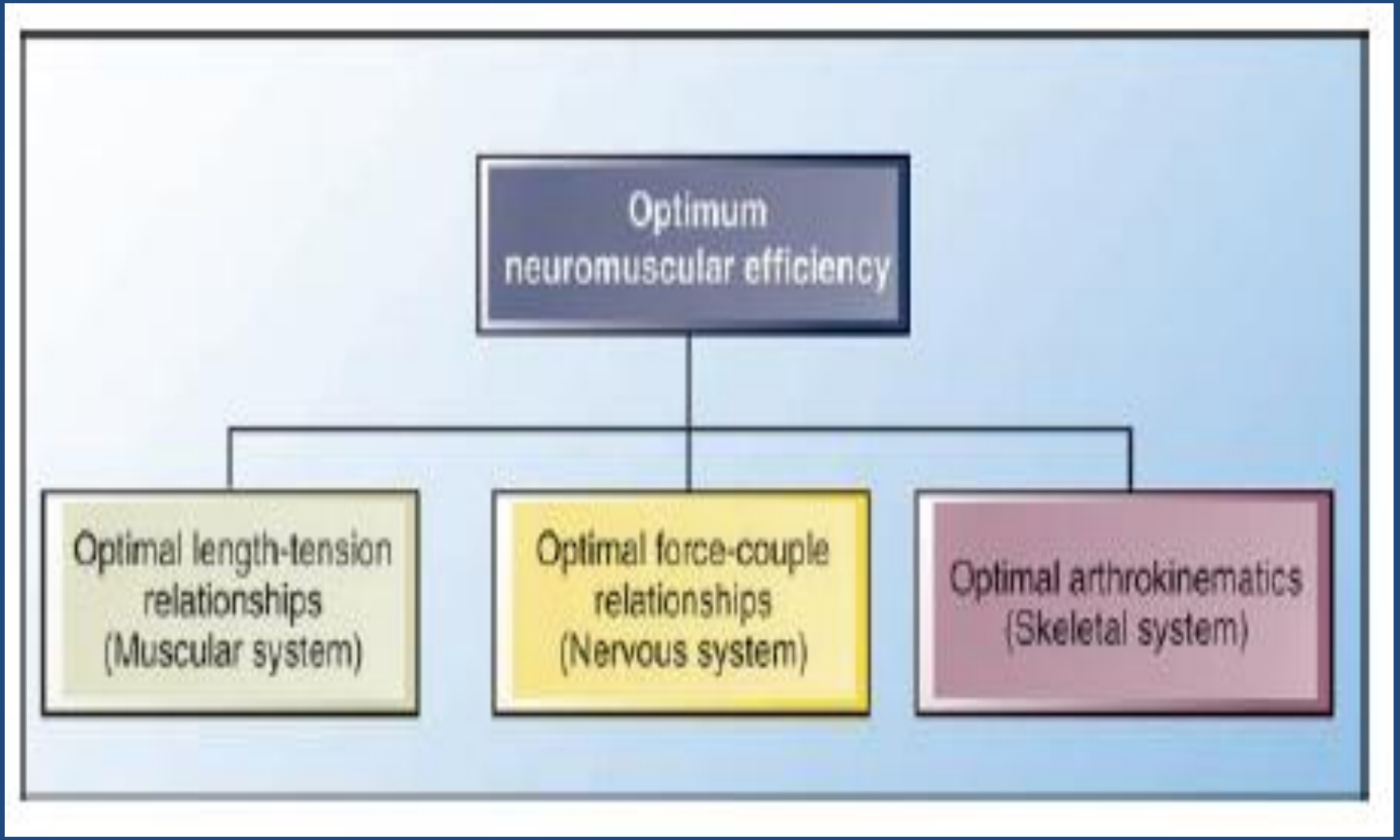
Stabilizers: muscles that support or stabilize the body while the prime movers and the synergists perform the movement patterns.

The Local Muscular System (Stabilization System)

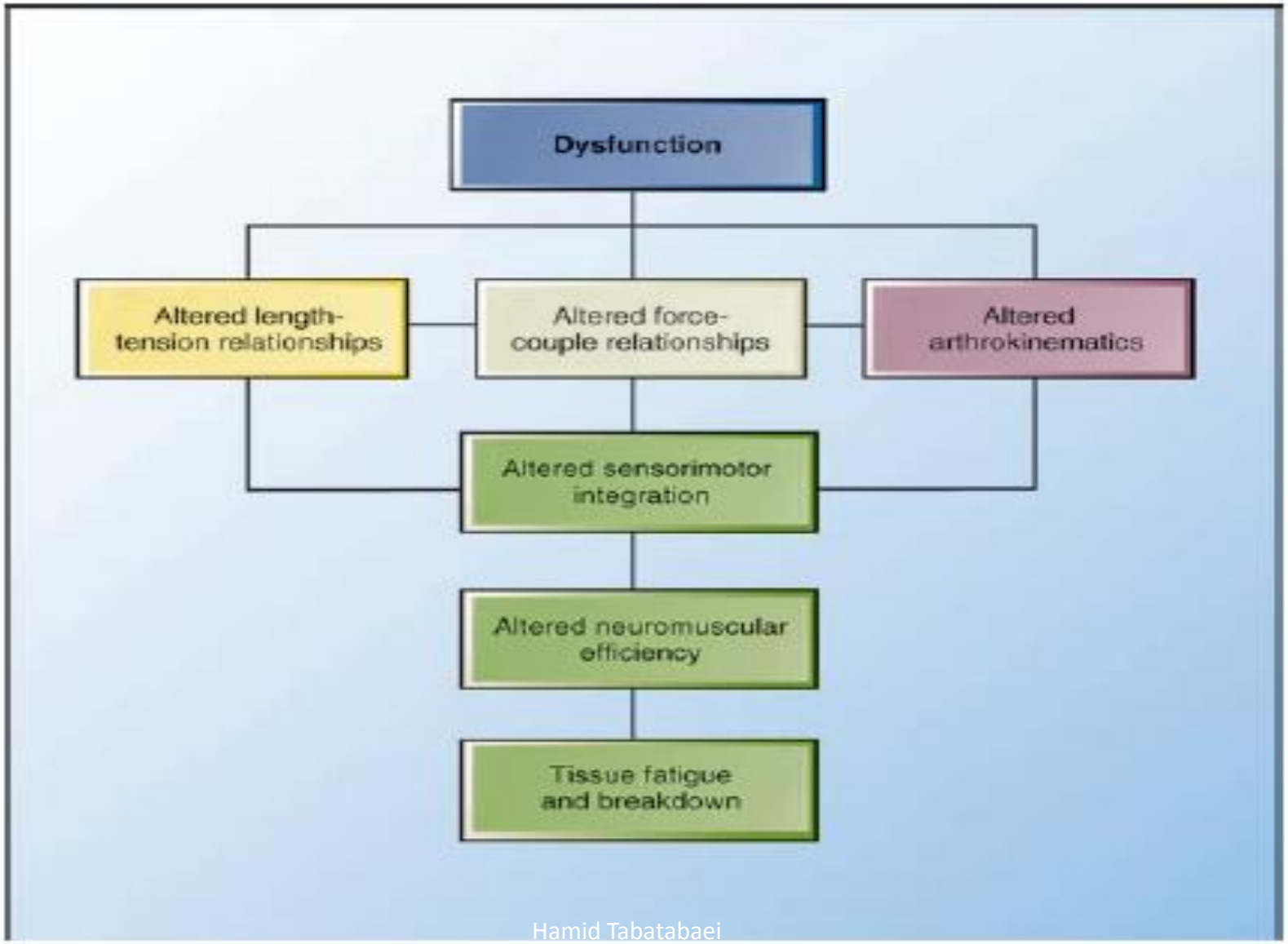
THE GLOBAL MUSCULAR SYSTEMS (MOVEMENT SYSTEMS)



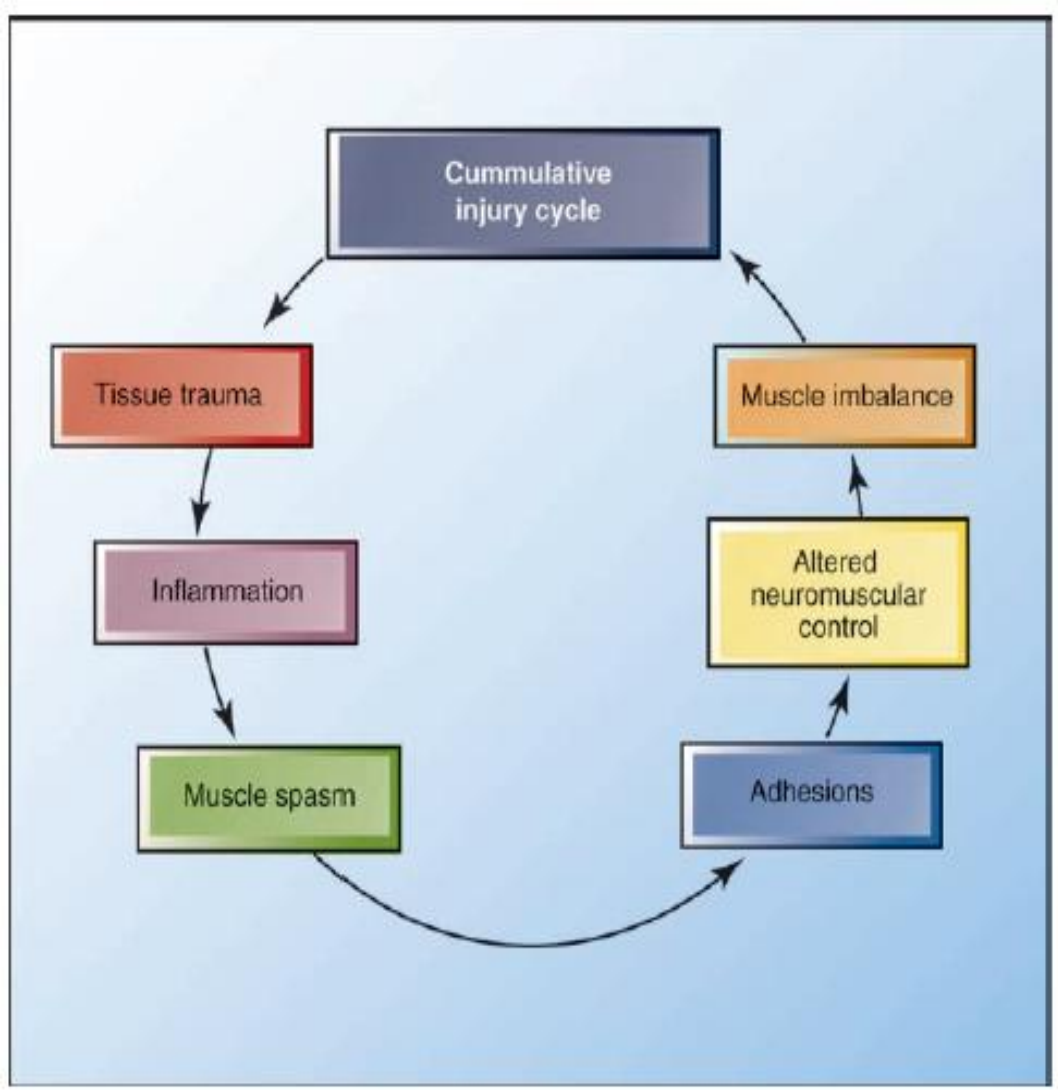
Optimal neuromuscular efficiency.



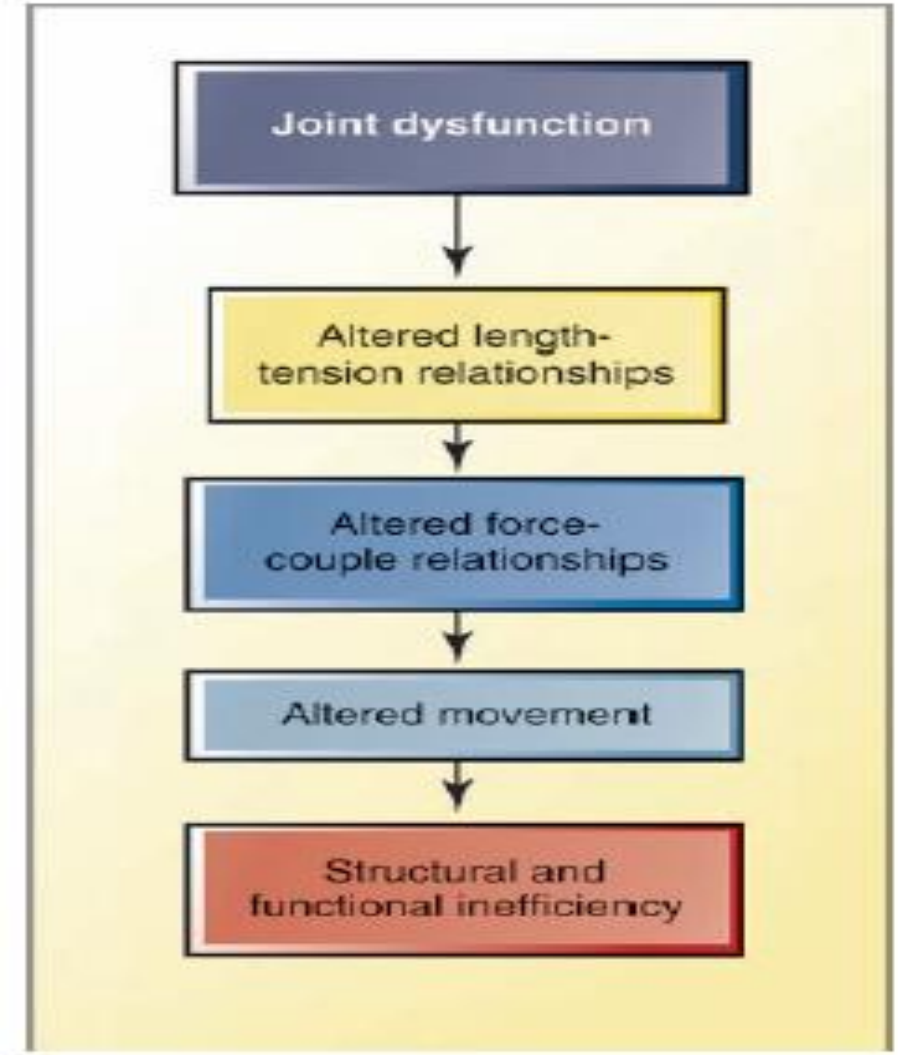
HUMAN MOVEMENT SYSTEM IMPAIRMENT



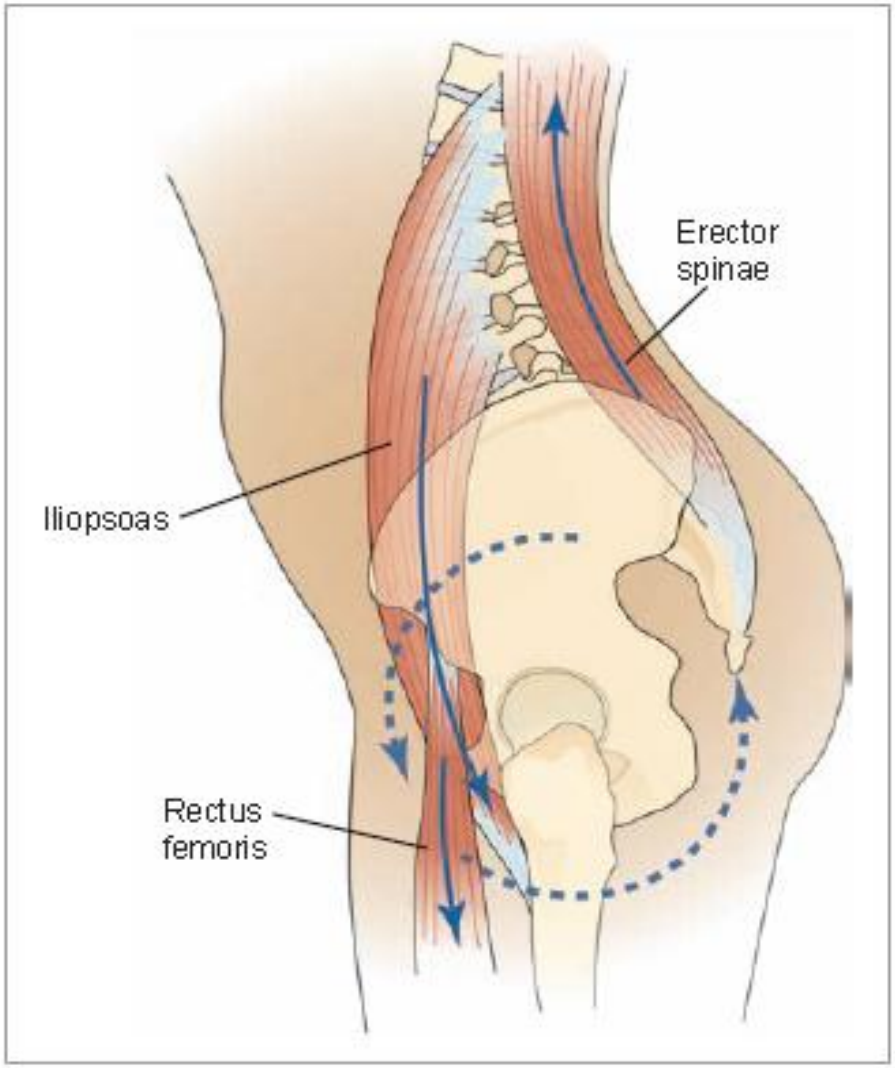
Cumulative injury cycle.



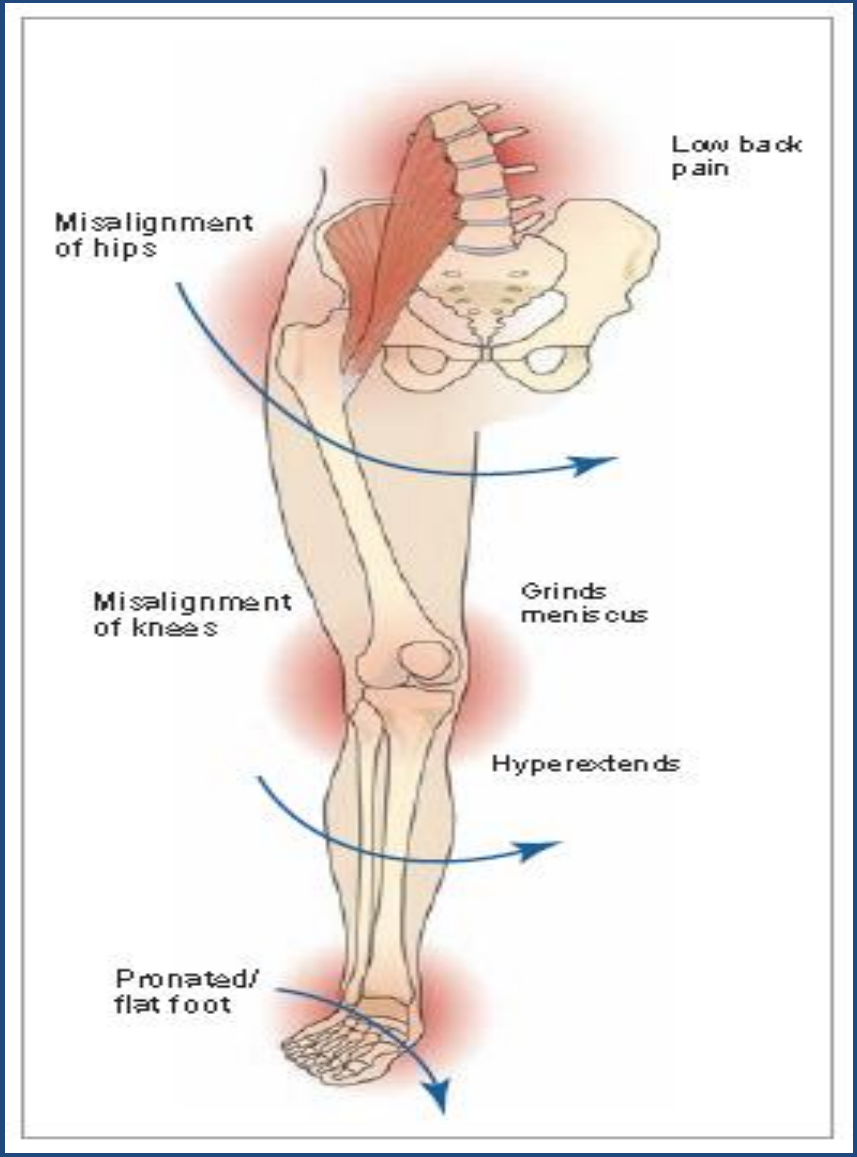
STATIC MALALIGNMENTS



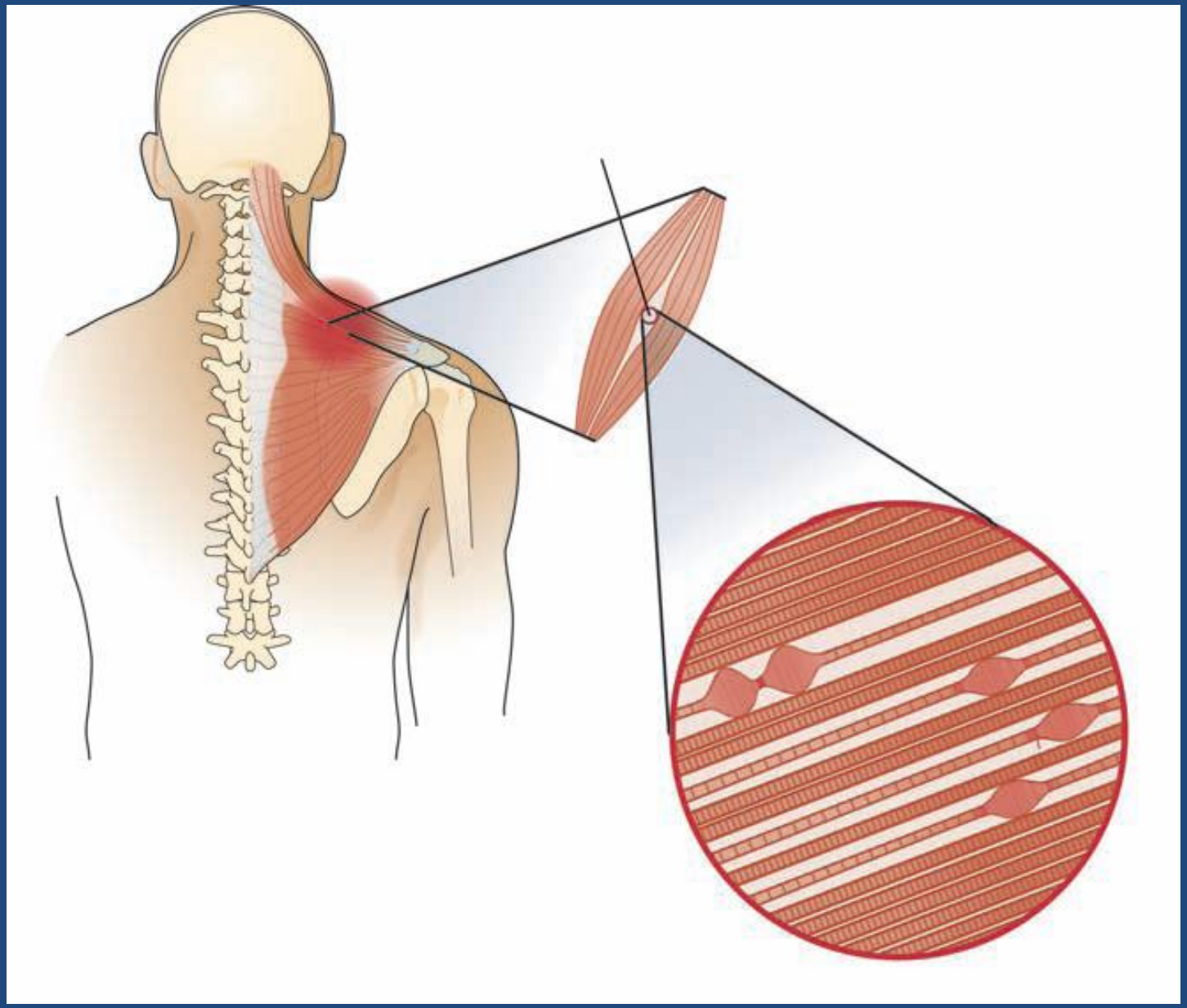
ALTERED MUSCLE RECRUITMENT



DYNAMIC MALALIGNMENTS

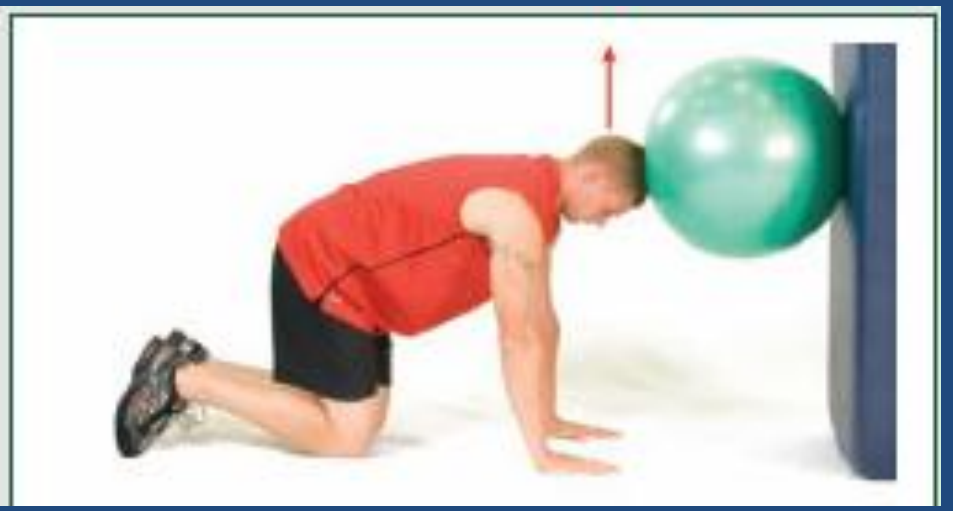


Self-Myofascial Release

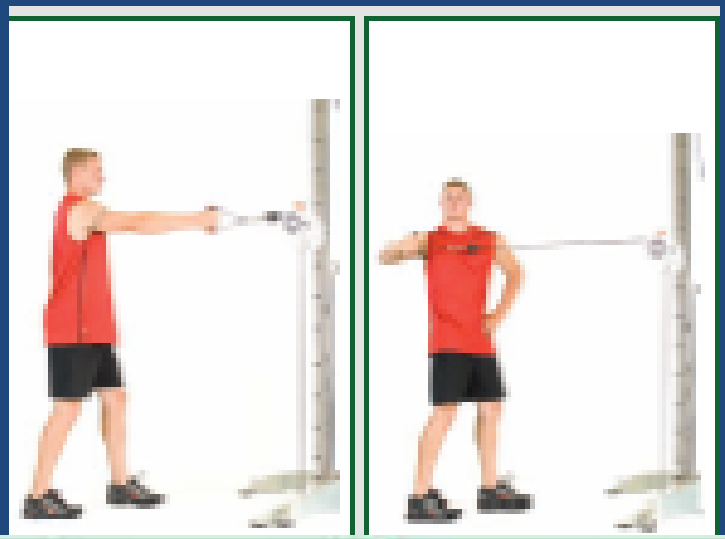


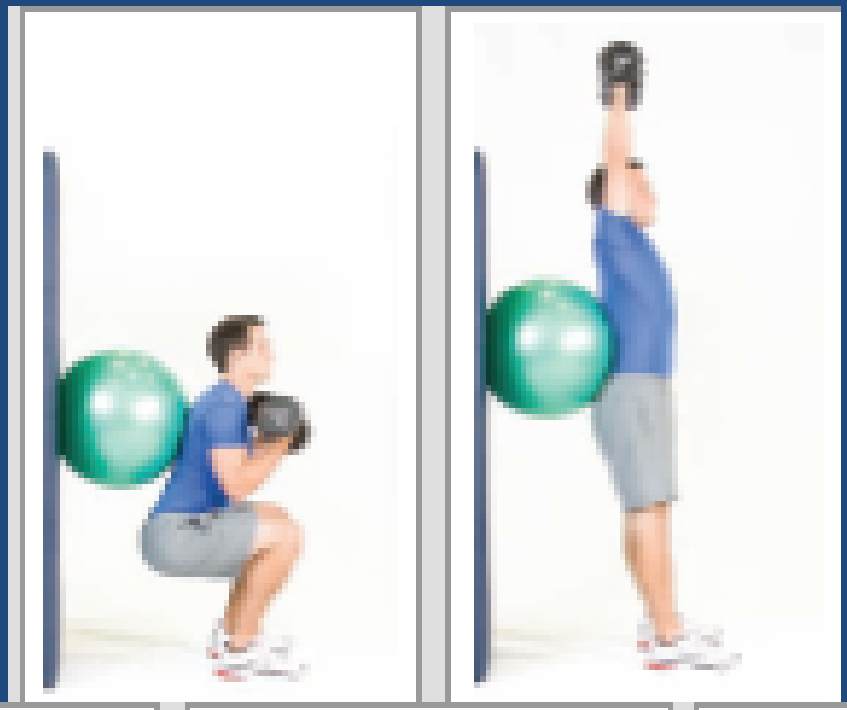
Lengthening Techniques

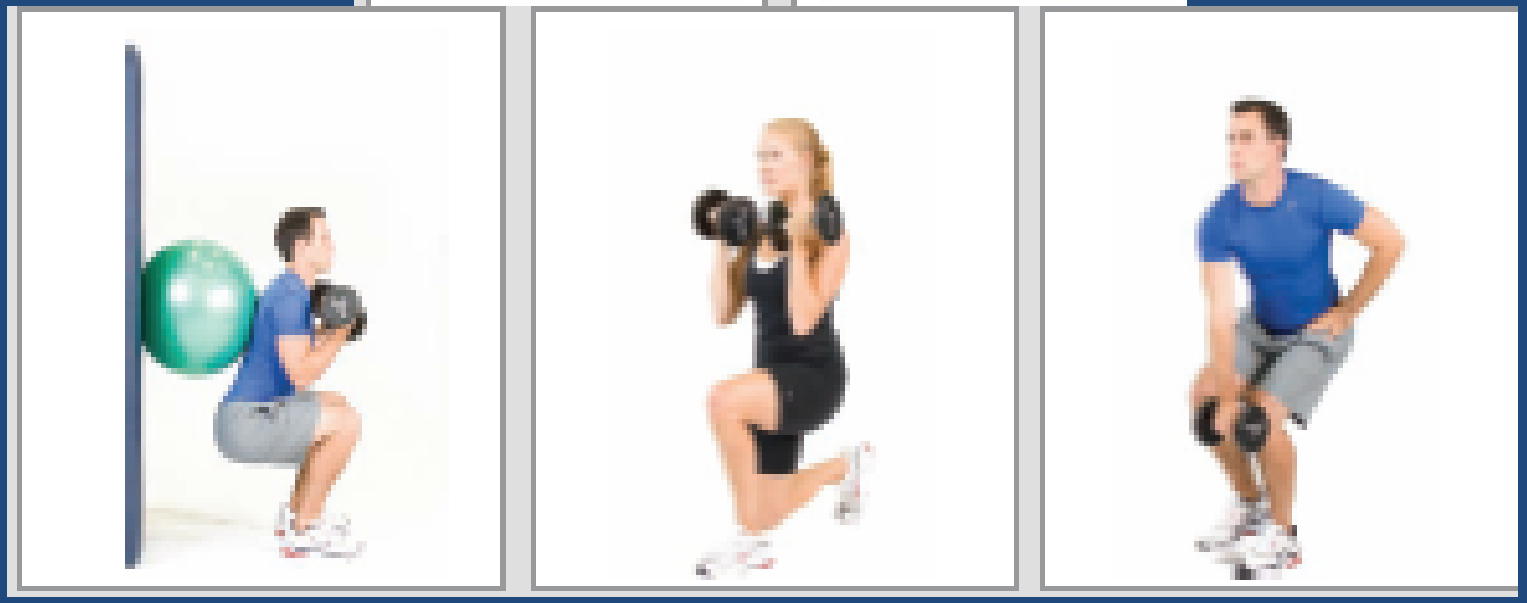
Activation Techniques

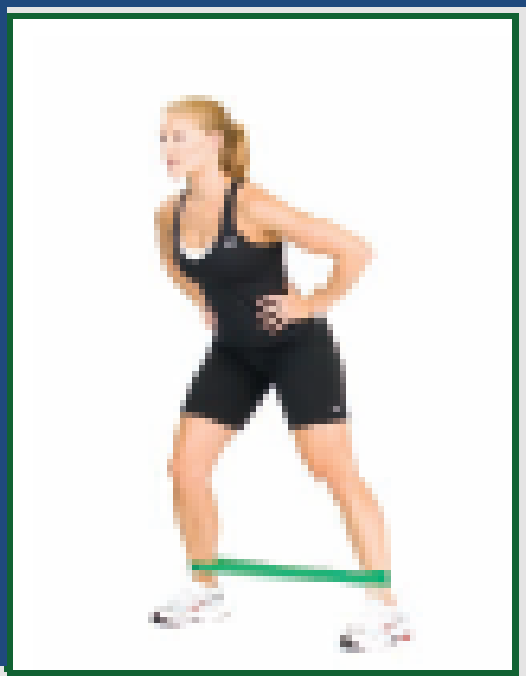
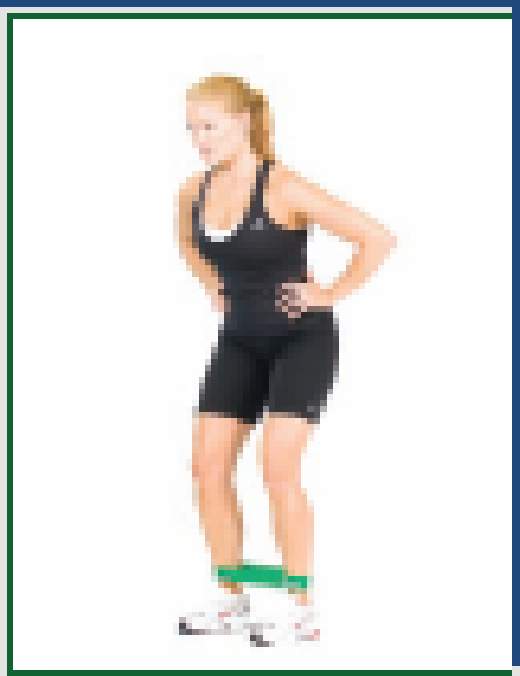


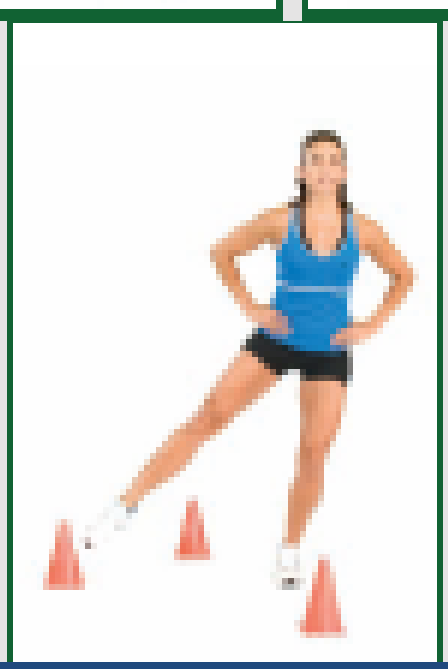
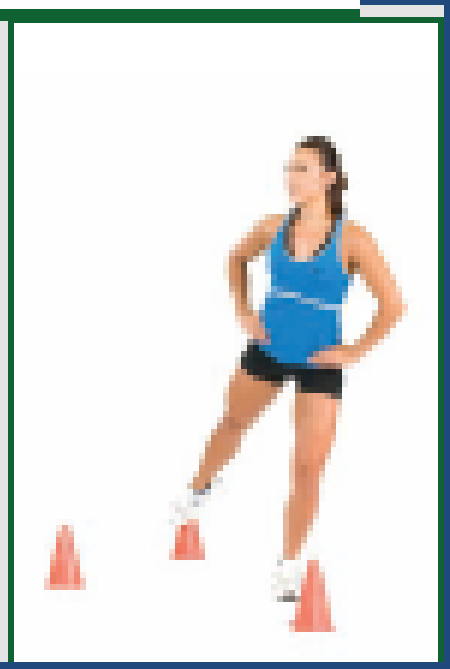
Integration Techniques

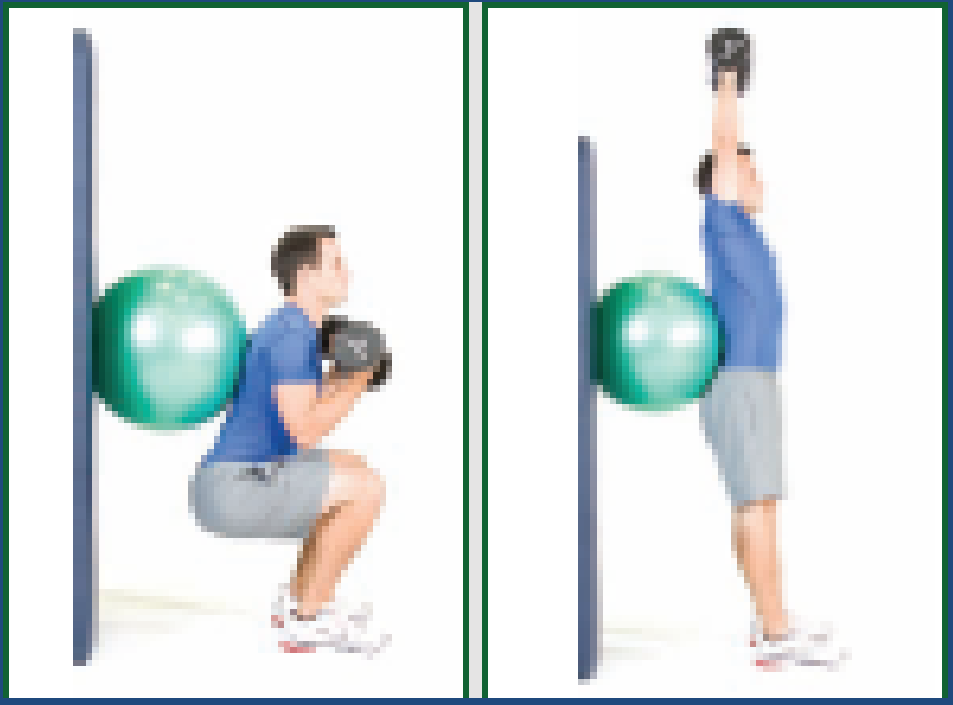








با تشکر از توجه شما