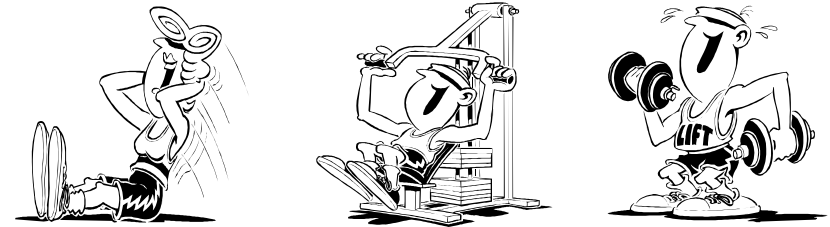


Muscle Lab The Abs



Questions? Contact _____
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Major Muscles	Location	Function	Exercises
Rectus Abdominis	Most superficial muscle; Runs vertically from the rib cage to the pubic bone	Flexes the spine	Crunches; reverse crunch; pelvic tilt; good posture
Transverse Abdominis	Deepest layer; Runs horizontally and encircles the abdominal cavity	Compresses the abdomen; Active during coughing, sneezing, laughing, etc.	Contract this muscle by pulling the belly button to the spine during all abdominal exercises
External Oblique	Runs diagonally downward from the ribs to the pubic bone	Spinal rotation; Lateral trunk flexion	Crunches and reverse crunches with rotation; side bends
Internal Oblique	Runs diagonally upward from the pelvis to the ribs; located under the external obliques	Spinal rotation; Lateral trunk flexion	Crunches and reverse crunches with rotation; side bends
Erector Spinae (Back muscle which is an important trunk stabilizer)	Runs vertically down both sides of the spine	Trunk extension	Hyperextension chair; supermans; good posture Stabilizer for all free weight exercises especially when standing — squats, overhead presses, etc.

Some Common Abdomial / Trunk Injuries	Prevention Techniques
Intercostal tearing — tearing of tissue between ribs, feels bruised	Avoid over extension on side bends; use support during downward motion of side bend Excessive and explosive rotation against a load (forceful twisting) as in sweep rowing and discus throwing motions.
Muscular strain — over stretching of musculotendonous tissue	Always warm-up before physical activity and adequately stretch worked muscles.
Imbalances between the abdominal and low back muscles	Balance abdominal exercises with low back stretching and strengthening exercises.