AGILITY & SPEED DEVELOPMENT
TERMINOLOGY

- **SPEED** – The ability to achieve a high velocity.

- **AGILITY** – The ability to change direction without the loss of speed, strength, balance, or body control.
MORE TERMINOLOGY...

- **FORCE** - The ability to change an object’s state or rest or motion.

- **STRENGTH** – The ability of a person to exert force on physical objects using their muscles.
SHE BLINDED ME WITH SCIENCE!

- **IMPULSE** – the essence of movement.
  - Force X Time
  - Greater the impulse, faster and farther the movement.

- **POWER** – how fast the force is applied
  - Force X Distance X Time
FACTORS DETERMINING SPEED OF MOVEMENT

- Strength
- Reactive Ability
- Motor Coordination
- Quickness (CNS)
- External Conditions
- Endurance
THE BOTTOM LINE!

- **SPEED = STRENGTH**

- **AGILITY = STRENGTH**

- The most effective speed/agility training tool is the weight room!
  - Strength and Power are the FOUNDATIONS to speed/agility development.
WAYS TO INCREASE SPEED

- Stride Rate – How fast the foot can return to the ground, increasing the number of foot contacts in a given amount of time.

- Stride Length – The actual distance covered with each step taken.

- Starting Ability (Acceleration)
STAY GROUNDED

- Faster running speeds are achieved with greater ground forces in relationship to mass... put more force into it... and you cover more of it!
SPRINT TECHNIQUE

- **POSTURE**
  - Eyes up
  - Shoulders ahead of hips

- **ARM ACTION**
  - “Relaxed hands”
  - Elbow at 90°
  - “Hammer the nail”

- **LEG MOVEMENT**
  - Foot strike under hips
  - Heel to butt on recovery
  - Dorsiflexion
PEDAL TO THE METAL!

- ACCELERATION – Powerful, full-range of action with the arms and legs, and a low, driving posture
  - Forceful muscular contraction at the hip, knee, and ankle.
  - Forward body lean (head to toe).
  - “Positive” shin angle, knee ahead of ankle.
  - Forcefully drive elbows back.
  - Start to get tall by 6th – 8th stride.
ACCELERATION

- Powerful triple extension (sagittal plane, frontal axis) in ankle, knee & hip
- Flexion / Extension (sagittal plane, frontal axis) of the shoulder joints
- Trunk stabilised in straight driving position: trunk and pelvis held in a neutral position
- Powerful triple joint Flexion (sagittal plane, frontal axis) in ankle, knee & hip (contra-lateral patterns)
DRILLS

- ARM ACTION
- MARCHES
- SKIPS
- BOUNDS
- ACCELERATION LADDER
  - First 2 rungs 16” apart
  - Increase distance between consecutive rungs by 4 inches.
  - 20”, 24”, 28”, 32”, etc.
PROGRAMMING

- **EXERCISE TIME**
  - EVERYTHING IS TIMED!

- **TRAINING DISTANCE**
  - 40 – 400 yards

- **RECOVERY TIME**
  - 10 – 40 yards, 1 : 5-6
  - 100 – 400 yards, 1 : 3-4
PROGRAMMING

- Proper design and emphasis of workout / drills for time of year
- Proper warm-up
- Each workout goes from simple to complex
- Each week builds on the preceding week (mechanics, intensity, volume)
- Perfect technique for each drill / each rep
- Complete rest for drills (time of year dependant)
- Appropriate cool-down
- Recovery strategies (ice tubs, nutrition)
PULL OR BE PULLED?

- ASSISTED
  - TOWING – cords
  - DOWNHILL (4% grade)

- RESISTED
  - UPHILL
  - SLED TOW
  - HARNESS/CHUTES
AGILITY
WHERE DOES IT FIT?

- PHILOSOPHY
- TIME
- FACILITIES
- EQUIPMENT
2 CATEGORIES

- PROGRAMMABLE
  - Follows a fixed pattern of movement
  - Speed Ladder
  - 4 – Corner
  - Husky Agility

- REACTION
  - Responds to an auditory or visual cue
  - Reaction Balls
  - Ball Drop
  - Wave Drill
KEEP IT SIMPLE

- FIND THE DRILLS THAT MEET THE NEEDS OF THE PROGRAM AND GET GOOD AT DOING THEM!
PUTTING IT ALL TOGETHER

- GET IN THE WEIGHT ROOM!
- CLEAN UP TECHNIQUE!
- FIND DRILLS THAT FIT YOUR PROGRAM!
- PRACTICE WITH A PURPOSE!