

# Hansen Multisport

## Running Biomechanics

### Outcome of Proper Running Biomechanics:

- The athlete should first and foremost be able to run faster and more economical.
- To perform a greater amount of work more effectively and safely.
- To be able to recover from run training more rapidly.
- An increased ability to train sooner and more often.

## Form Training to Improve Running Biomechanics

The following is a brief outline of the biomechanics of proper running form and specific skills training to improve your running economy.

### Enhancing Biomechanics – Lower Body

- Form and Foot strike
  - Effective forward lean from the ankles.
  - Avoid splaying and hip drop -shoulder drop. Indicates weak glute medius (strengthen).
  - After push off lift heel towards the glute then as soon as the knee comes through to the hip, put the foot down so the ankle and knee are vertically aligned
  - To optimize braking and disperse the impact forces:
    - Land mid or forefoot underneath knee
    - Land on the on the outside of the foot and roll in towards the big toe.
    - Allow the heel to touch the ground but with minimal contact time. This generates load without increasing braking forces and ground contact time.
  - Hip extension- extend the knee well past the hip to unload and ensure a free return. Works in conjunction with arms stroke to control rhythm. Extension of the hip provides the running power so improve hip flexibility and drills to emphasis this aspect of running form.
  - Hip or Knee Drive:
    - The height of the knee and foot depends on the amount of hip extension.
    - Both actions are passive and should not be forced.
- Stride Length –
  - There is not one absolute correct stride length!
  - Don't overstride – reaching heel far out in front of body creating excess braking comes from a low leg/foot carry every stride
- Stride Rate –
  - Target of 180 foot strikes per minute (mostly for overstriders)
  - Even Left and Right leg contribution and consistent throughout entire run

