

The Quadrant of Boom Part 1

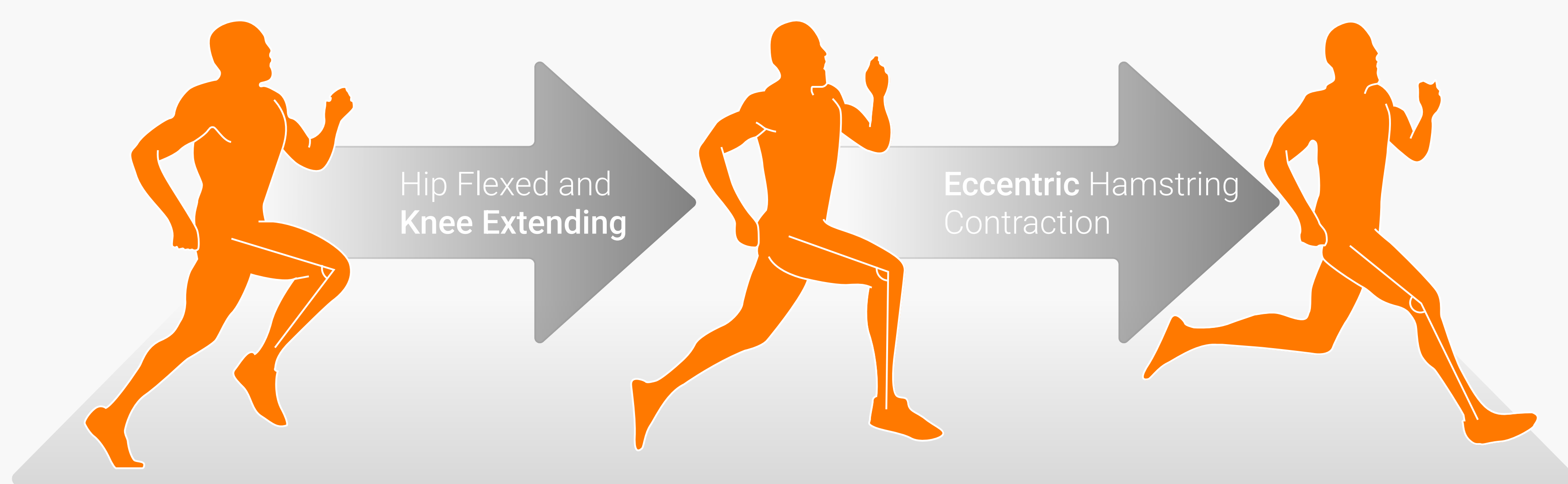
Sprint speed and hamstring strength

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High speeds force the hamstrings to **decelerate 1,200°/sec** of knee extension velocity in less than 100ms.



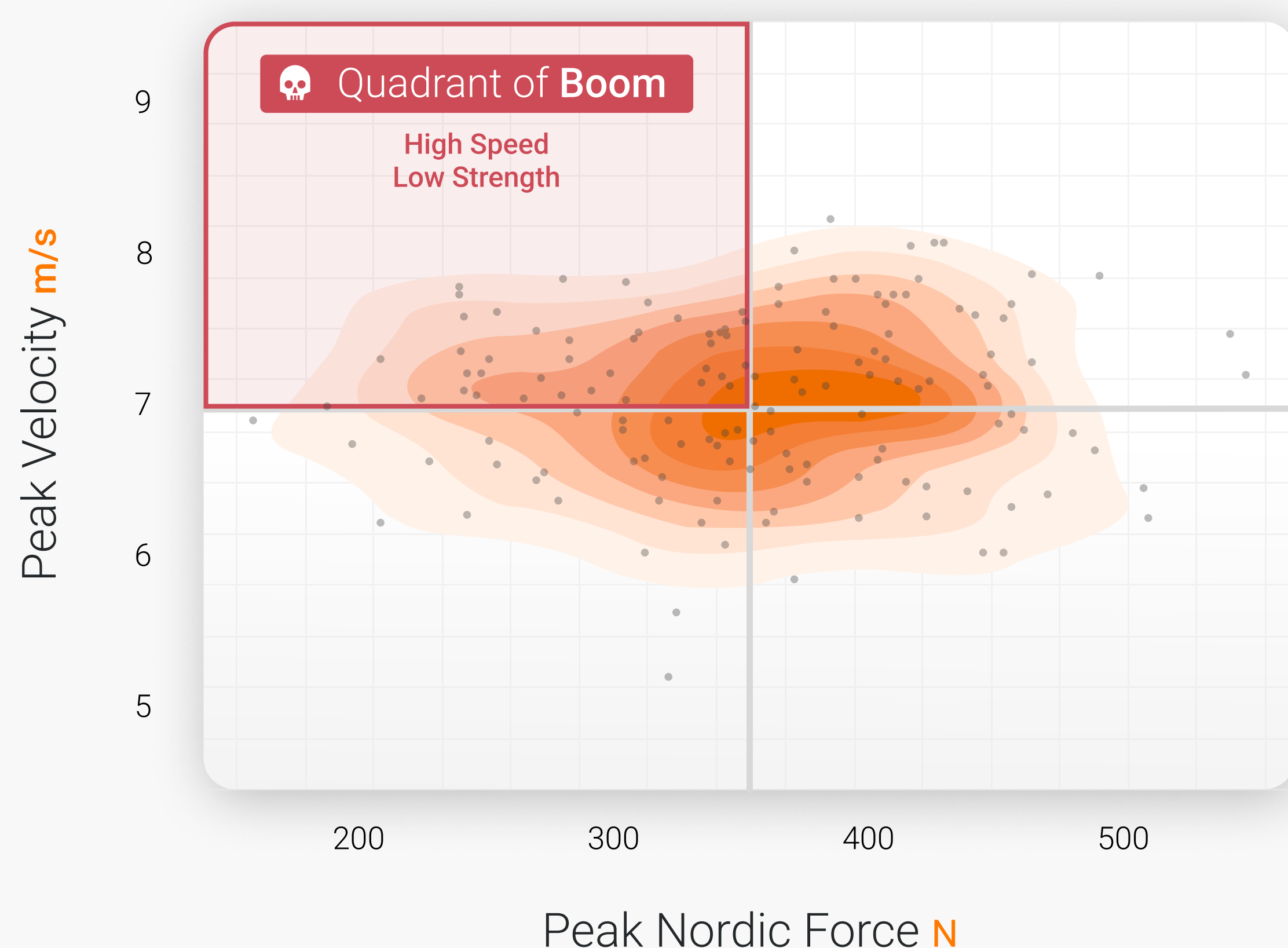
Sprinting, cutting and kicking place **high eccentric loads on the hamstrings**, increasing injury risk for underprepared muscles.

Greater **eccentric hamstring strength** is related to

- ↑ Stride **rate**
- ↑ Stride **length**
- ↑ **Fascicle** length
- ↓ Exercise-induced **muscle damage**



The **Quadrant of Boom** is a framework that combines **sprint speed and eccentric hamstring strength** to assess an athlete's readiness to perform and risk of injury.



To create reference lines for each quadrant, practitioners can use:

 **Median values** from participant data

 Research-informed **cutoffs**