

## PILLAR

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practitioners use goniometry not as an endpoint but as one component of comprehensive assessment that includes postural photography, movement screens, and patient-reported outcomes. The documentation of progressive improvements through serial goniometric measurements provides objective evidence for insurance reimbursement and helps establish realistic treatment timelines. Perhaps most importantly, teaching patients to perform basic goniometric self-assessment empowers them to track their own progress and adjust home exercise programs based on objective data rather than subjective feelings that may be influenced by daily symptom fluctuation.

## Groin Injuries (Hockey)

The epidemic of groin injuries in hockey reflects the sport's unique biomechanical demands combined with the anatomical adaptations that develop from years of skating. Research reveals that 50% of European professional hockey players report hip and groin problems during each season, with these injuries accounting for 20% of total practice time loss in collegiate hockey. The strongest predictor of groin injury is adductor strength asymmetry, with ratios below 80% significantly increasing injury risk. The underlying mechanism relates to the extreme demands placed on the adductor complex during the skating stride, where these muscles must both generate power and provide stability through ranges of motion that exceed normal human locomotion patterns.

The intersection of hip morphology and groin injury in hockey creates complex treatment challenges that Eldoa addresses through integrated protocols. The 85-89% prevalence of cam morphology in elite players means that most athletes operate with structural hip changes that predispose them to both intra-articular damage and compensatory soft tissue stress. Eldoa hip joint decockapation protocols work to maximize the available range within these structural constraints while reducing the compressive forces that accelerate joint degeneration. Sacroiliac joint normalization proves equally important, as the pelvis must accommodate the asymmetric forces of skating while maintaining enough stability to protect the hip joints. The L5-S1 decompression protocols address the junction where forces from the lower extremities transfer to the spine, a critical area for both performance and injury prevention. The integration with skating-specific training ensures that improvements in passive mobility translate to better movement patterns on the ice, while preventive maintenance throughout the season helps manage the cumulative stress that makes late-season groin injuries so common.

## Ground Reaction Forces

The measurement of ground reaction forces in various sports provides sobering data about the mechanical stresses athletes endure and helps explain why Eldoa protocols prove essential for managing these demands. Basketball presents the most extreme example, with landing forces during drop vertical jumps reaching  $9.92 \pm 3.02$  times body weight, compressed into impact durations of only  $144 \pm 33$  milliseconds. These forces can peak at 1,066 pounds, creating shock waves that transmit through the entire kinetic chain from foot to spine. Female basketball