**Paper Notes**

*Prediction of Future Injury in Sport: Primary and Secondary Anterior Cruciate Ligament Injury Risk and Return to Sport as a Model*

* **Contamination:** if a study of athletes is contaminated by prior interventions relating to a modifiable outcome variable that’s used as a risk indicator, a large percentage of subjects may have been unknowingly exposed to outcome-altering interventions.
  + The timing, volume, and duration of interventions before and after screening must be accounted for, quantified, and included in any valid prediction model
* **Surveillance:** a flawed injury surveillance system and the extended and varying time between screening and injury
* **The Flaw of Normalization:** normalizing should be avoided in the development of predictive injury models. This team found in their previous study that non normalized knee abduction was highly predictive of injury risk, but normalized knee abduction was not able to predict ACL injury in mixed-effects logistic regression models.
  + Basically, non-normalized data had more predictive capabilities
  + Reasoning: normalized events and moments aren’t naturally occurring, therefore they cannot be soundly used for prediction
* **Injury Prediction and the Second Injury Dilemma**
  + Obviously, the best predictor for a second injury is a prior injury
* Overall, they don’t have any real results to share. They believe themselves experts on injury prediction and give guidelines on what future projects should do. Honestly, they seem rather pompous in their writing, but that’s just me.

*Repeated Exposure to Established High Risk Workload Scenarios Improves Non-Contact Injury Prediction in Elite Australian Footballers*

* Objective: assess the effect of multiple high-risk scenario exposures on injury prediction
* Methods: sessional workload data (GPS derived distance, sprint distance, max velocity) from 60 players over 3 seasons
  + Univariate and multivariate Poisson regression models were used to find incident rate ratios
  + Model performance was evaluated using ROC (AUC)
* Results: very low and very high exposures to >85% of a player’s max velocity over the previous 8 weeks were associated with greater injury risk compared to moderate exposure, with model performance of AUC = .64 (which isn’t very good imo)
* Minimal exposure to high velocity efforts was associated with the greatest injury risk. Being under-loaded may be a mediator for non-contact injury. Pre-season workload and playing experience weren’t moderators of this effect
* Overall, these results make me suspicious. Not sure if we should really trust them, seeing as their results really weren’t that good