

Supplemental Material

Supplemental Table S1. Checklist for video evaluation.

Variables	Categories
Weather conditions	
- Precipitations	Yes/No/Unsure
- Presence of sunny weather	Yes/No/Night/Unsure
Playing phase before injury	Defensive/Offensive
Field location at injury	According to a division into twelve different zones (see Figure 1 Supplementary material)
• Long axis of the field	Defensive zone, Mid-defensive zone, Mid-offensive zone, Offensive zone
• Short axis of the field	Left corridor, Middle corridor, Right corridor
Player contact preceding injury	Yes/No
If contact, where?	Upper body/Pelvis/Injured leg/Un-injured leg
Player contact at IF	Direct contact/Indirect contact/Non-contact
If indirect contact at IF, where?	Upper body/Pelvis/Injured leg/Un-injured leg
Injury classification	Direct contact/Indirect contact/Non-contact
How many feet on the ground	One/Two/Unsure
Leg loading at IF	Injured Leg/Un-injured Leg/Unsure
Horizontal speed	Zero/Low/High
Vertical speed	Zero/Low/High

IF, injury frame

Supplemental Table S2. Checklist for biomechanical evaluation.

Variables	Evaluation
Trunk flexion (+ flexion, - extension)	Estimation to nearest 5°
Hip flexion (+ flexion, - extension)	Estimation to nearest 5°
Knee flexion (+ flexion, - extension)	Estimation to nearest 5°
Ankle flexion (+ dorsiflexion, - plantarflexion)	Estimation to nearest 5°
Foot strike	Heel/flat/toe/unsure
Trunk tilt (+ ipsilateral, - contralateral)	Estimation to nearest 5°
Trunk tilt	Towards injured leg/Neutral/Towards uninjured leg/Unsure
Trunk rotation	Towards injured leg/Neutral/Towards uninjured leg/Unsure
Frontal plane hip alignment	Abducted/Neutral/Adducted/Unsure
Frontal plane knee alignment	Valgus/Neutral/Varus/Unsure
Foot position	Externally rotated/Neutral/Internally rotated
Significant Hip IR/ADD from IC to IF?	Yes/No/unsure
Valgus collapse	Yes/No/unsure

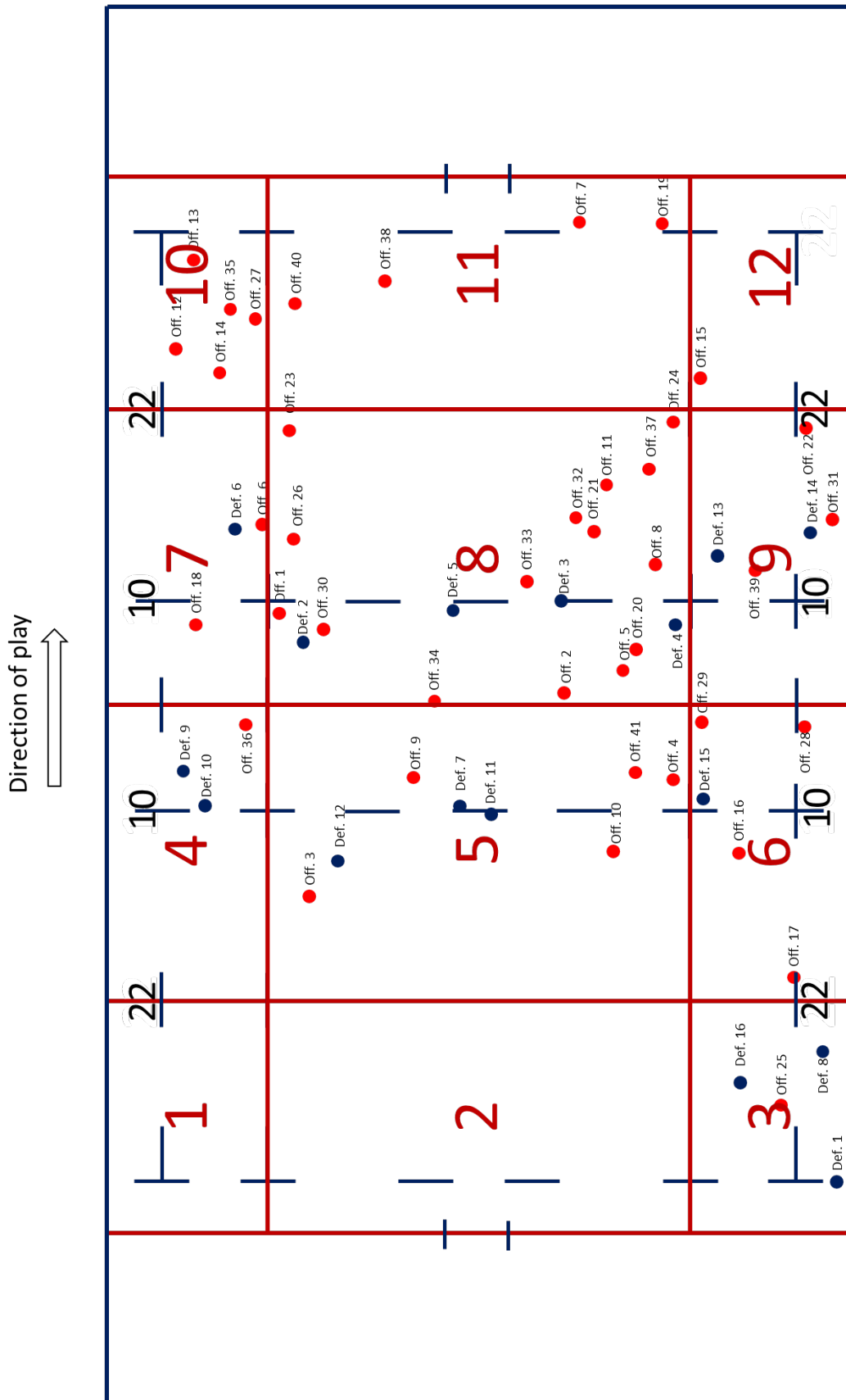
IC: initial contact; IF: injury frame; IR: internal rotation; ADD: adduction.

Supplemental Table S3. Number of ACL injuries and rate of ACL injuries per square meter according to divisions on the long and short axis of the Rugby Union field.

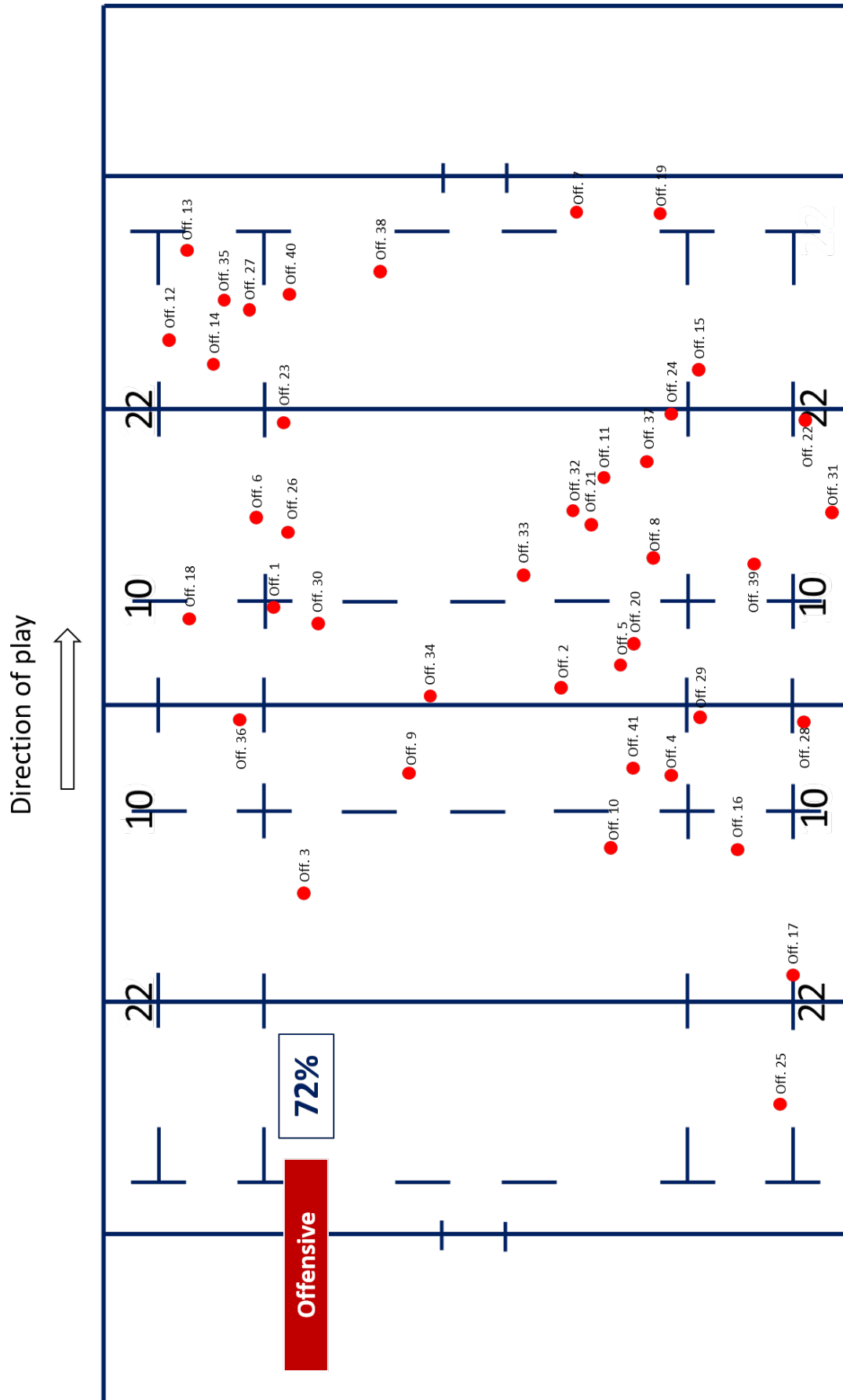
Field zones	Long axis of the field		Short axis of the field		
	Defensive half	Offensive half	Left corridor	Middle corridor	Right corridor
Area, m ²	3500	3500	1500	4000	1500
Number of ACL injuries	20	37	10	34	15
ACL injuries/m ²	0.006	0.01	0.0067	0.0085	0.01

Supplemental Table S4. Division of the field in 12 different zones (see Supplemental Figure S1).

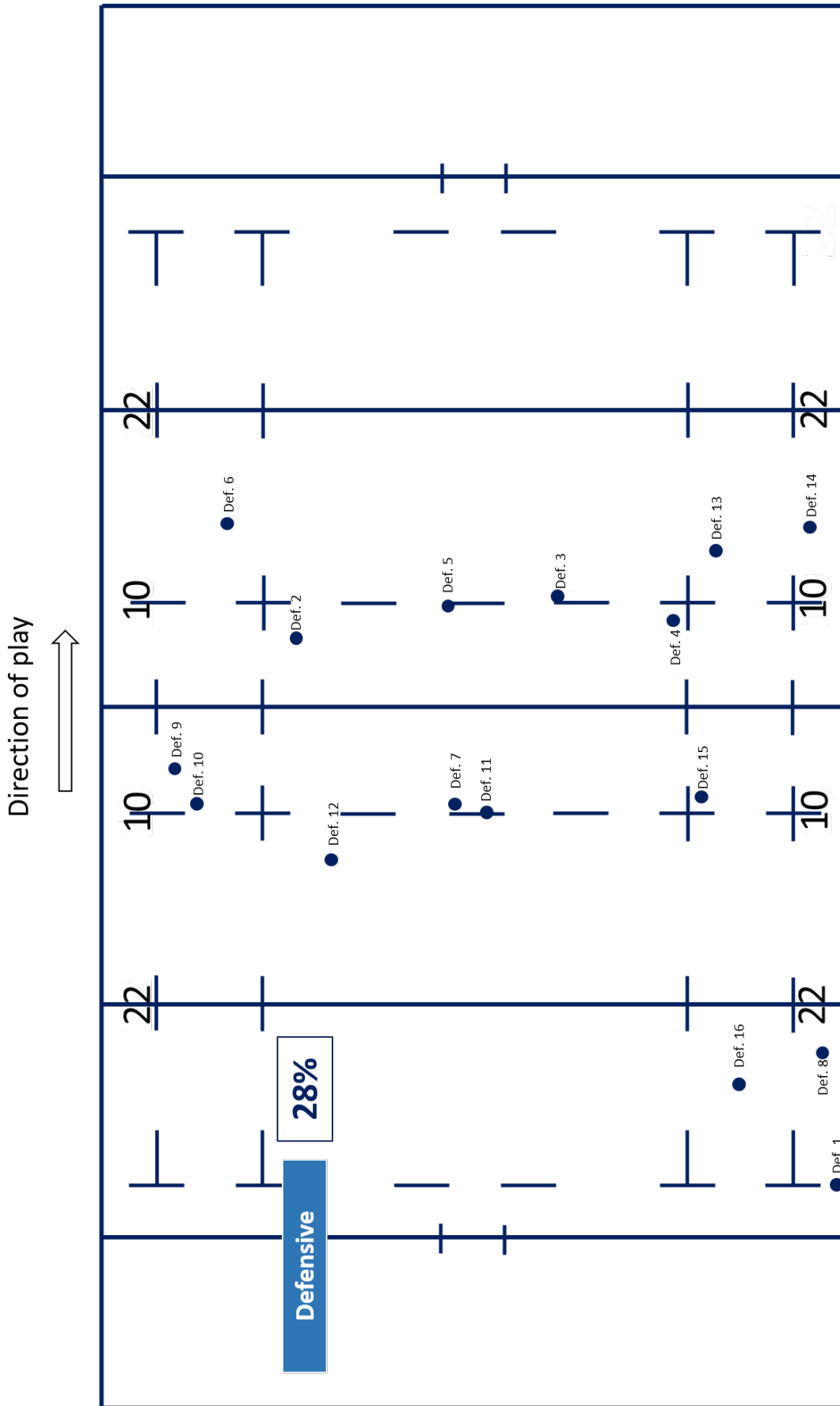
Field zones	1	2	3	4	5	6	7	8	9	10	11	12
Area, m ²	330	880	330	420	880	420	420	880	420	330	880	330
Number of ACL injuries	0	0	4	3	8	5	3	19	5	5	4	1
ACL injuries/m ²	0	0	0.01	0.007	0.009	0.012	0.007	0.02	0.012	0.015	0.0045	0.003



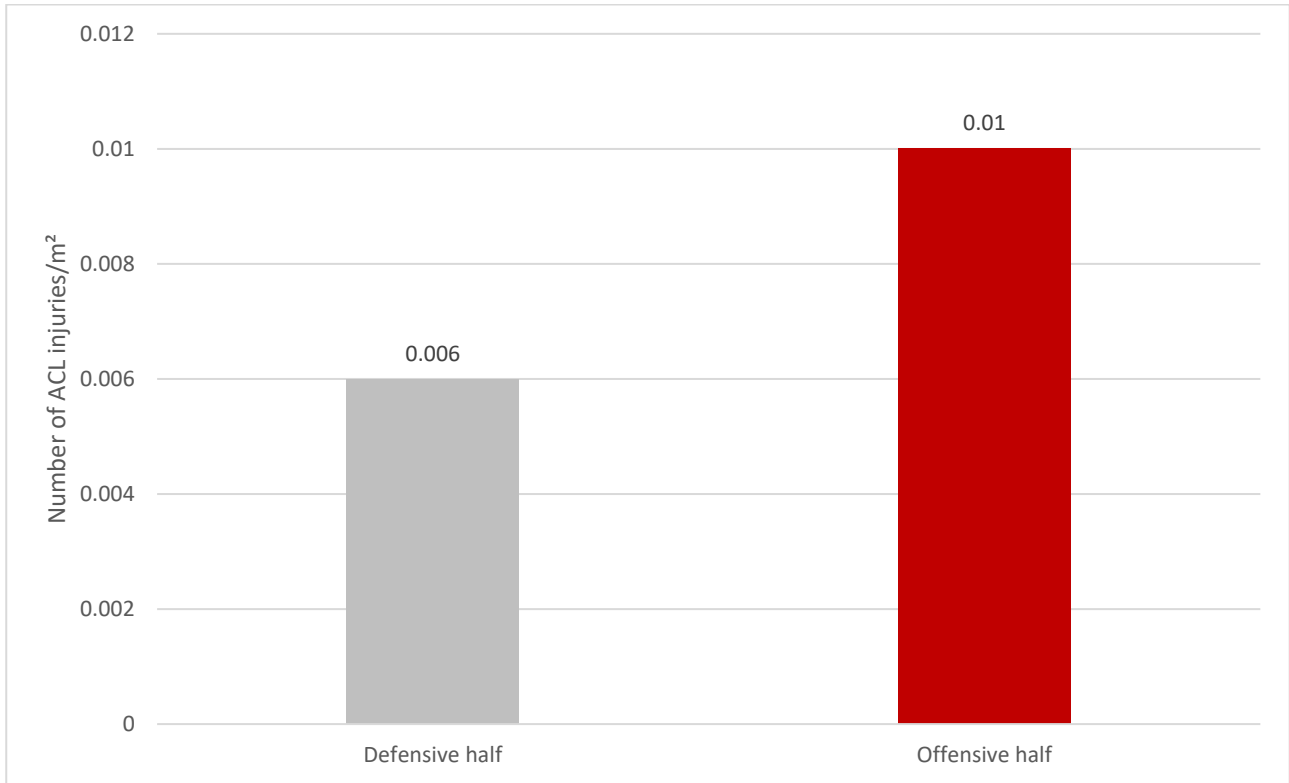
Supplemental Figure S1. Distribution of ACL injuries on the Rugby Union pitch divided in 12 different zones. Blue dots: defensive injuries; red dots: offensive injuries. Def: defensive; Off: offensive.



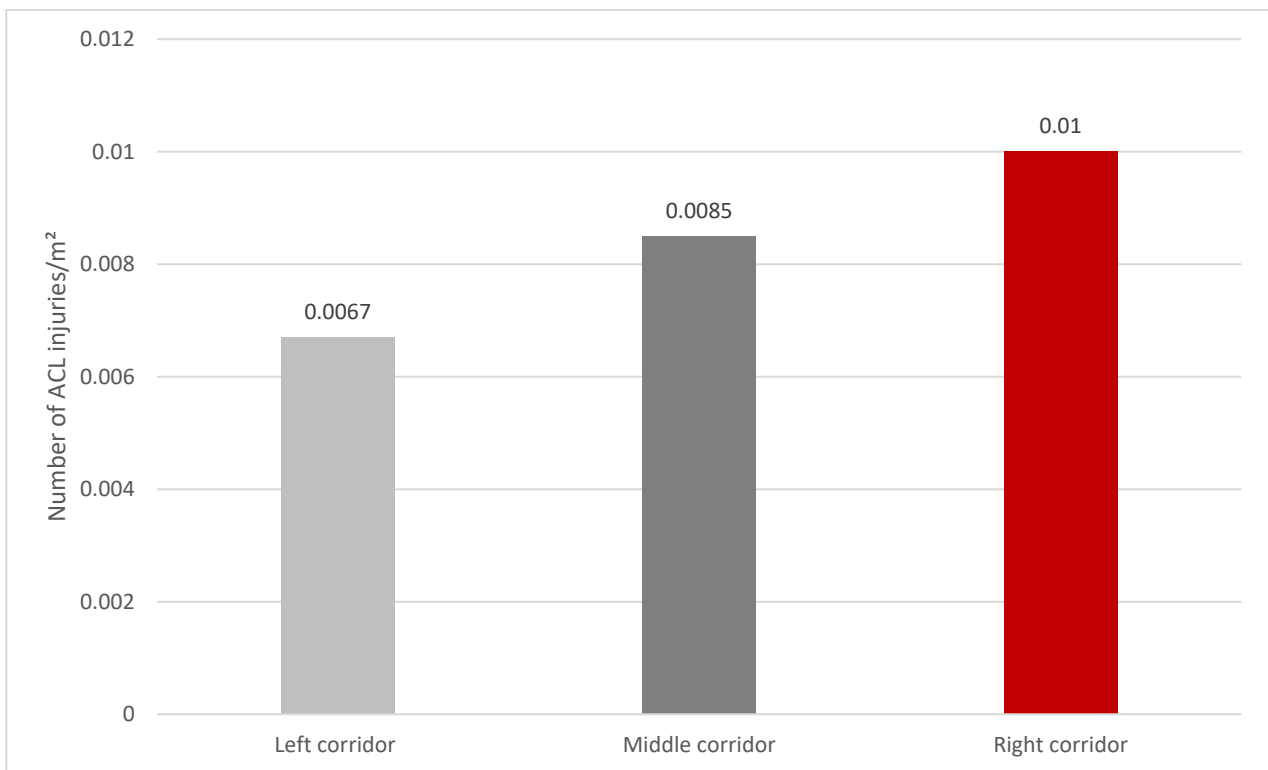
Supplemental Figure S2. Distribution of offensive ACL injuries on the Rugby Union pitch.



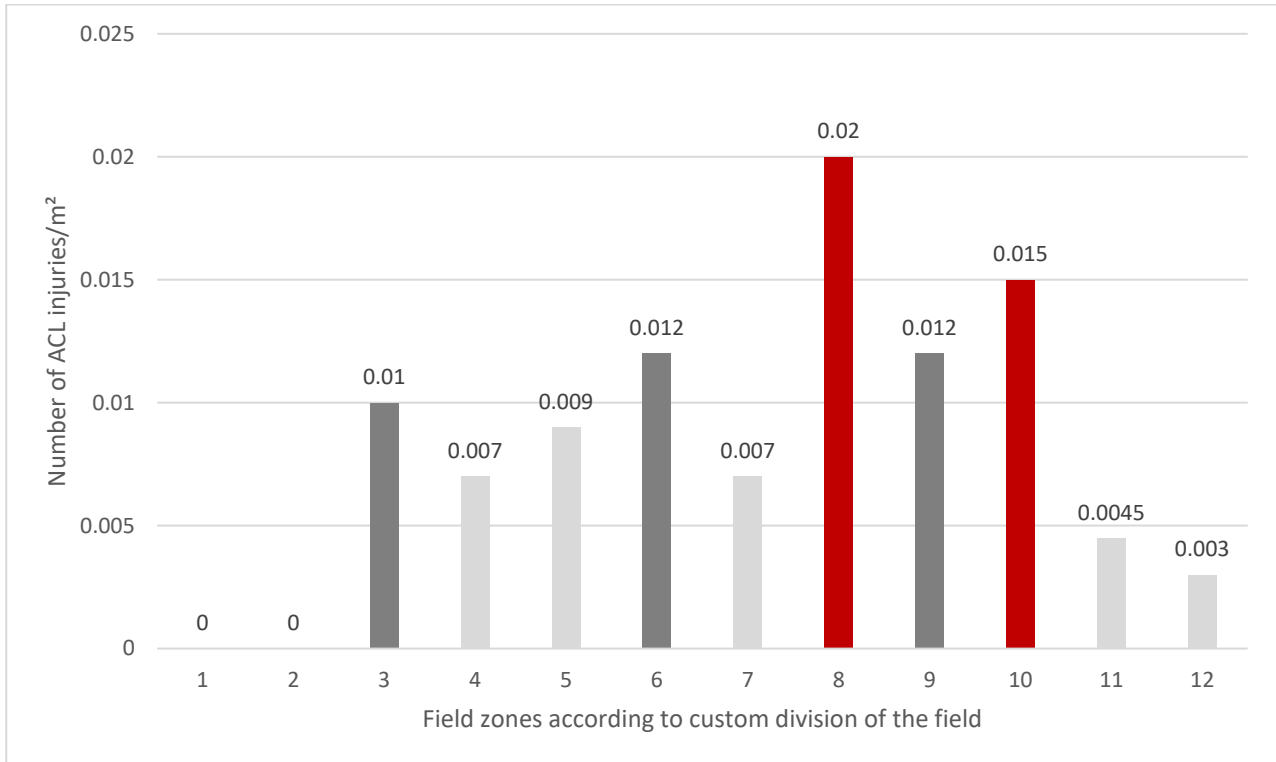
Supplemental Figure S3. Distribution of defensive ACL injuries on the Rugby Union pitch.



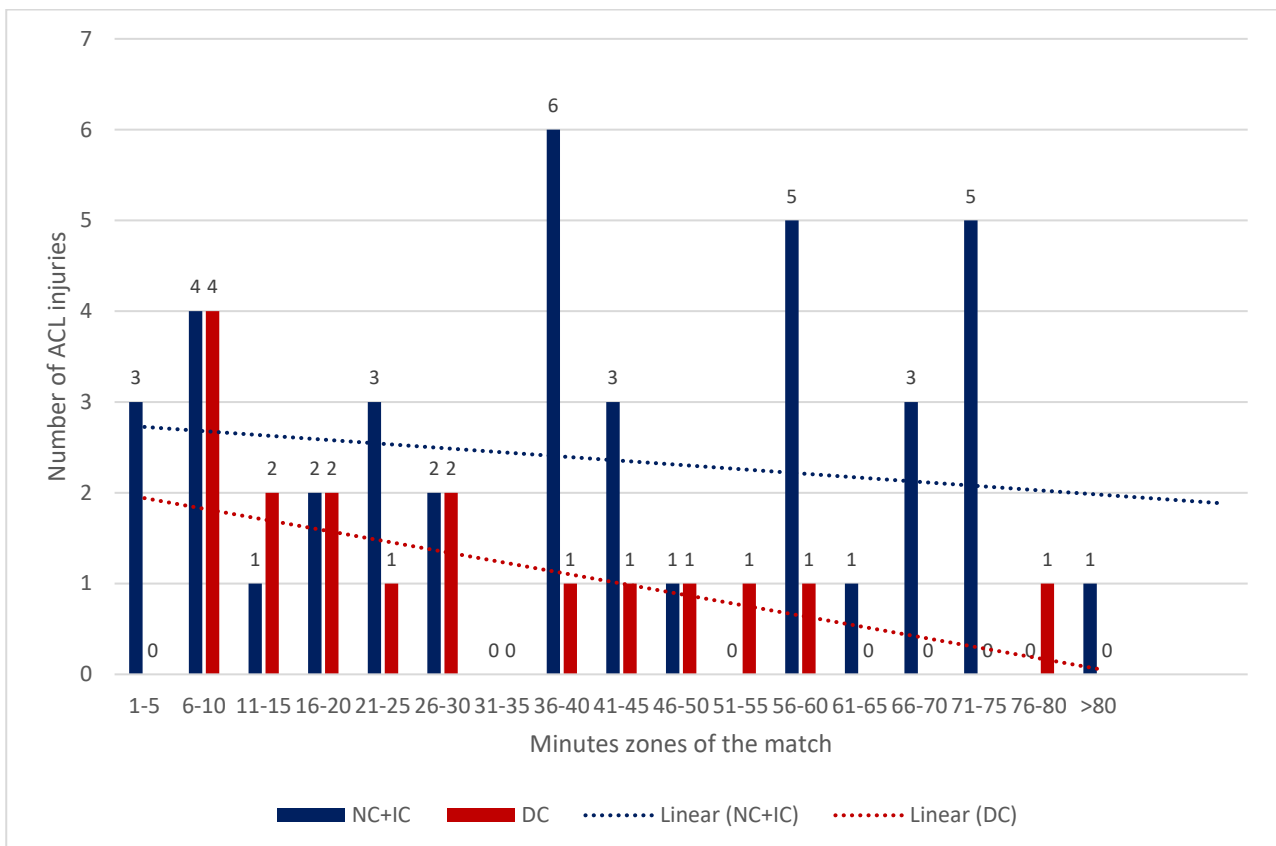
Supplemental Figure S4. Rate of ACL injuries per square meter for zone division on the long axis of the field.



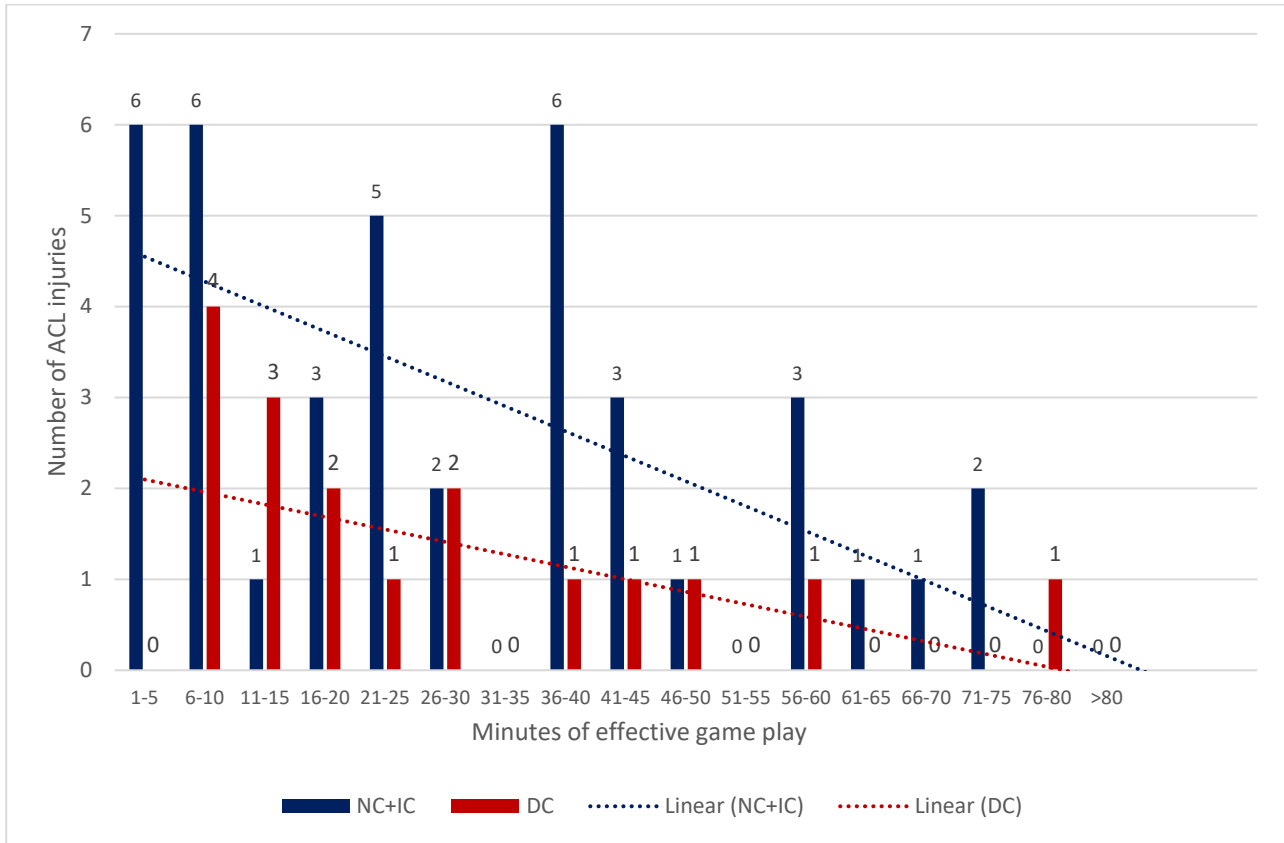
Supplemental Figure S5. Rate of ACL injuries per square meter for zone divisions on the short axis of the field.



Supplemental Figure S6. Rate of ACL injuries per square meter according to zone division (see Supplemental Figure S1.)



Supplemental Figure S7. Timing of ACL injuries during the match stratified for injury mechanism. NC: non-contact; IC: indirect contact; DC: direct contact.



Supplemental Figure S8. Minutes of effective gameplay (corrected for substitutions) and ACL injuries stratified for injury mechanism. NC: non-contact; IC: indirect contact; DC: direct contact.