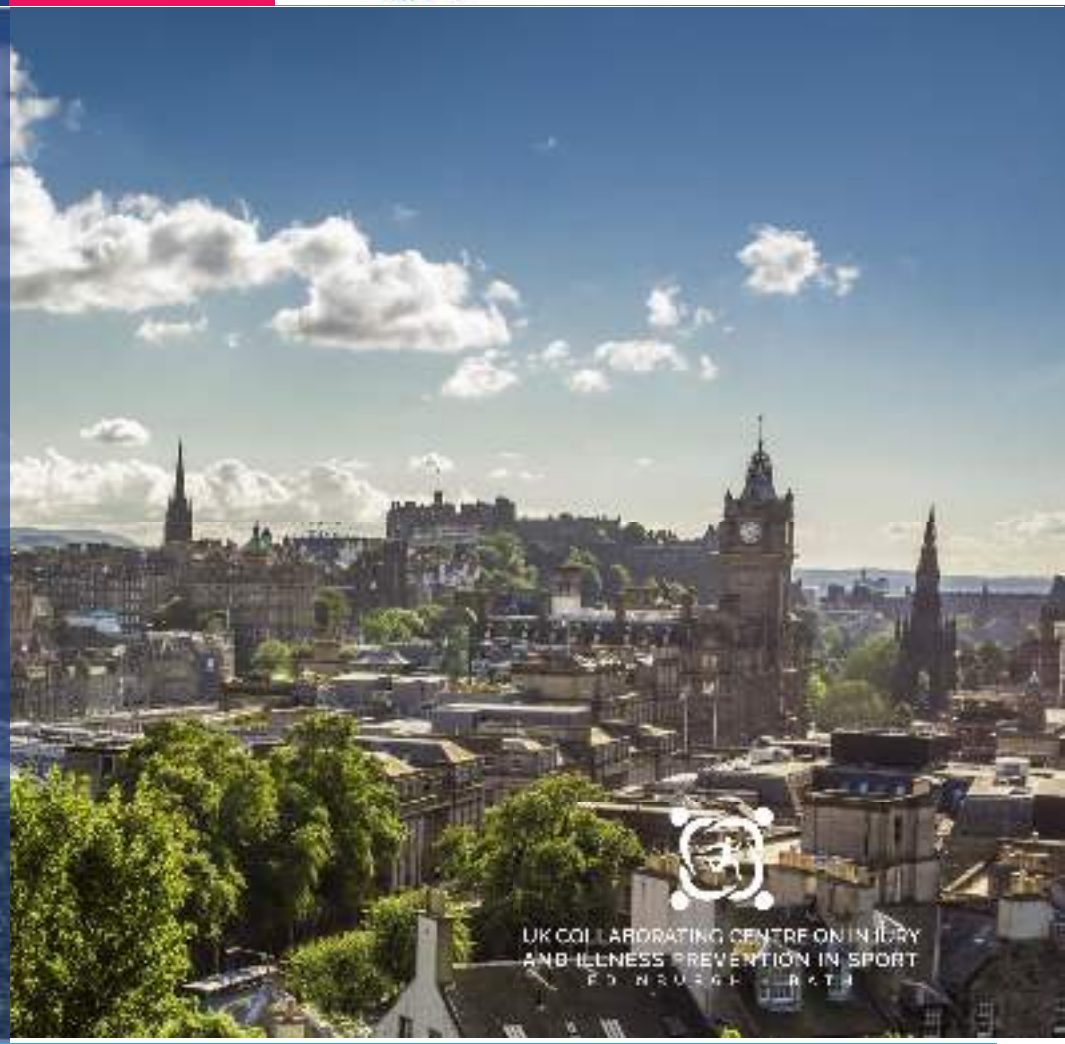
Evaluation of Activate in Women's Community Rugby:

Edinburgh Sports Medicine Research Centre
UK Collaborating Centre on Injury & Illness Prevention in Sport
UKCCIIS IOC Research Centre

Dr Debbie Palmer – 15th Sept 2025



One size doesn't fit all

World Rugby – Tri Nations ACTIVATE evaluation across Scotland, England and Wales

Background

Factors influencing gender differences in injury risk:

Prior experience

Environment

Specific injuries:

ACL

3-6 x more likely to experience injury compared w. boys/men

Diff outcomes – RTS, revision

Concussion

SRC sex differences rate and severity of concussion injury

Differences in no. of symptoms & frequency

Cervical attributes differ, influence concussion injury risk (e.g. whiplash mechanisms)

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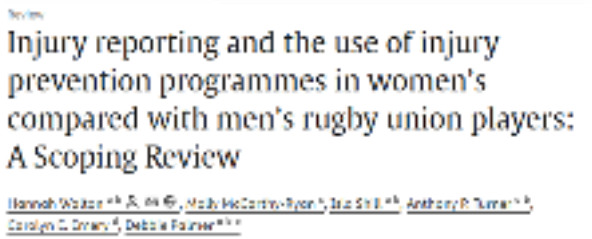
Injury prevention research

Majority of injury surveillance male players (24% female)

Injury prevention research

Limited (2/13) evaluations of interventions in female players



Prevention programme design and evaluation

Activate programme efficacy in reducing lower limb injuries and concussion in men's community rugby union (Attwood et al, 2017)

Reducing the burden of match injuries and concussion in boys (Hislop et al, 2017)

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Collaboration

Wales Site





Cardiff Metropolitan University / Prifysgol Metropolitan Caerdydd

WRU

Scotland Site





THE UNIVERSITY OF EDINBURGH

SCOTTISH RUGBY

England Site



UNIVERSITY OF BATH

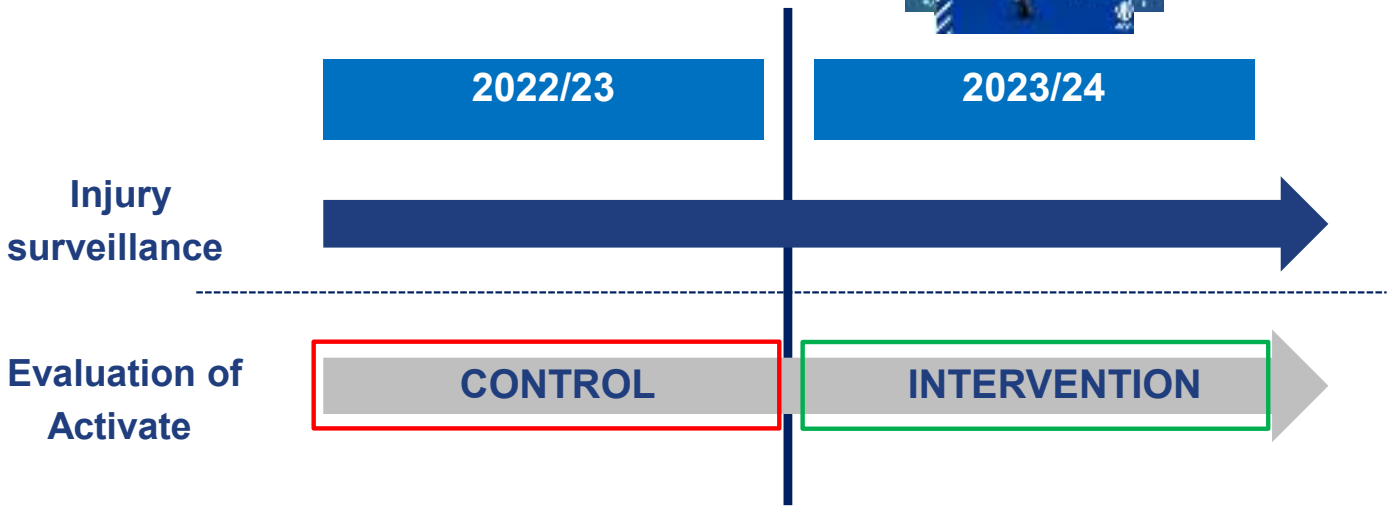
RFU

Implementation

Implement and evaluate efficacy of Activate in female setting

Scotland, England and Wales
2022/23, 2023/24 & 2024/25 seasons

Implementation



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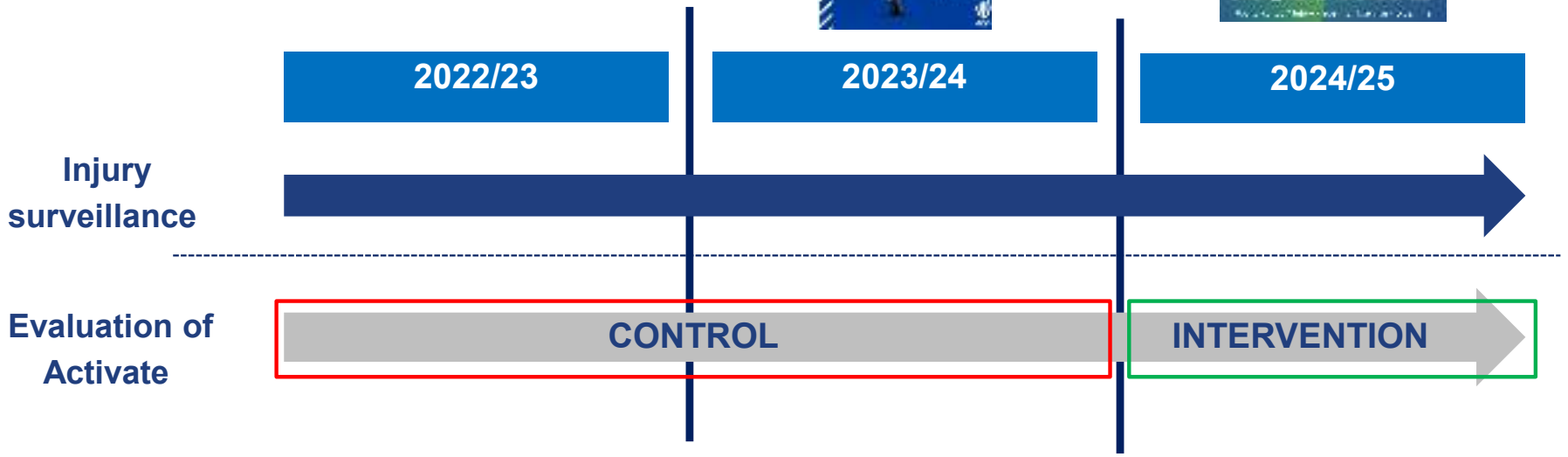
Implementation



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Implementation

Implement and evaluate efficacy of Activate in female setting

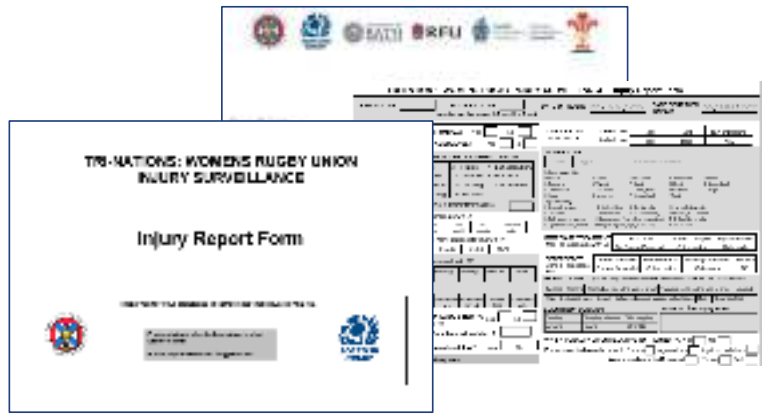
Scotland, England and Wales
2022/23, 2023/24 & 2024/25 seasons

Recruitment across Unions and leagues

Community women's rugby

Weekly match and training exposure

Individual match and training injury reports



Original research

Guidelines for community-based injury surveillance in rugby union

James C. Brown, Matthew Cross, Michael England, Caroline F. Finch, Gordon W. Fuller, Simon P.T. Kemp, Ken Quarrie, Martin Raftery, Keith Stokes, Ross Tucker, Evert Verhagen, Colin W. Fuller

ACTIVATE implementation

Two part Activate delivery

Train the Trainer

Train the Coach

Sessional adherence forms

Player and coach end of study survey:
Attitudes to warm-up/IP practices and Activate warm-up

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Preliminary results

28 teams involved in the study (21 teams across 2 seasons; 6 teams, 3 seasons)

630 players (311 players involved across 2 seasons; 65 players in 3 seasons)

Activate workshop delivered to 22 teams

15,433 match hours & 64,526 training hours

401 match injuries & 56 training injuries

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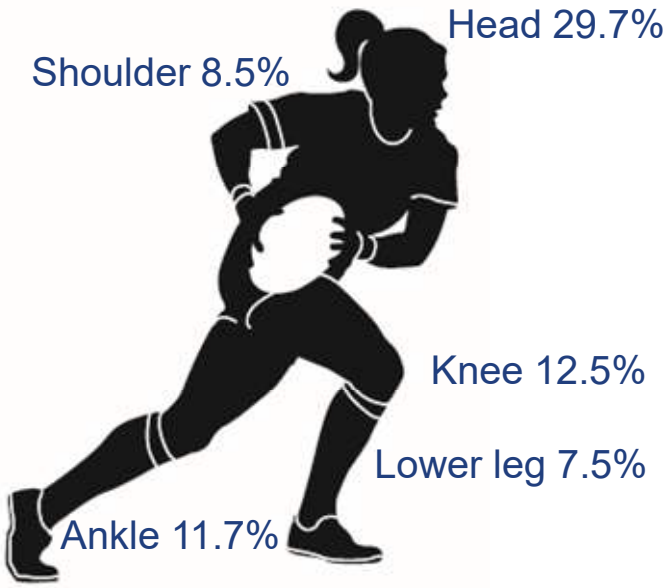
Preliminary results – all injuries

Across three seasons:

- 26 (23.5 to 28.5) match injuries per 1000 match hours
- 0.87 (0.64 to 1.10) training injuries per 1000 training hours

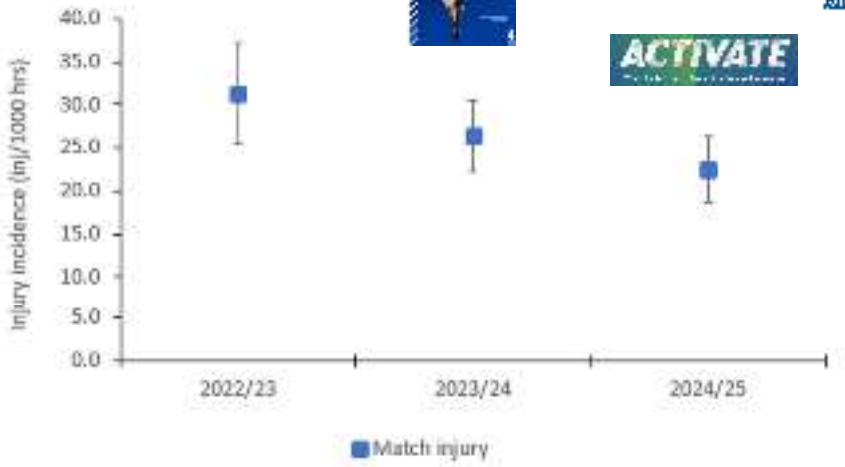


Match injury diagnosis

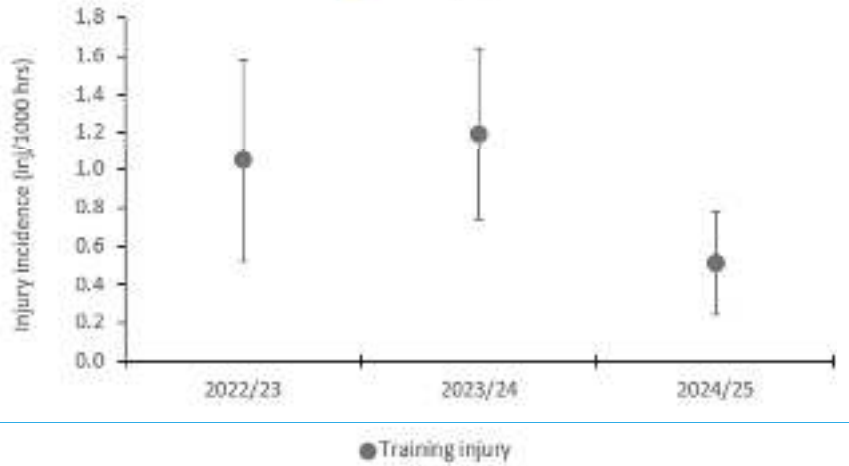
Concussion 6.5 injuries/1000 match hours (n=101)
Knee ligament 2.3 injuries/1000 match hours (n=36)
Ankle ligament 2.1 injuries/1000 match hours (n=32)

Preliminary results – all injuries

Match injuries			
Season	Hours	No. inj	Incidence (95%CI)
2022/23	3487	109	31.3 (25.4 to 37.2)
2023/24	5952	157	26.4 (22.3 to 30.5)
2024/25	5995	135	22.5 (18.7 to 26.3)



Training injuries			
Season	Hours	No. Inj	Incidence (95%CI)
2022/23	14312	15	1.05 (0.52 to 1.58)
2023/24	22630	27	1.19 (0.74 to 1.64)
2024/25	27584	14	0.51 (0.24 to 0.78)



Preliminary results

Concussion across three seasons:

- 6.54 (5.26 to 7.82) concussions per 1000 match hours
- 0.07 concussions per 1000 training hours

Season	Match concussions		Training concussions	
	No. inj	Incidence (95%CI)	No. inj	Incidence (95%CI)
2022/23	29	8.32 (5.29 to 11.4)	2	0.14 (0.0 to 0.33)
2023/24	39	6.55 (4.5 to 8.6)	2	0.09 (0.0 to 0.21)
2024/25	33	5.50 (3.6 to 7.4)	1	0.04 (0.0 to 0.12)

Preliminary results

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2024/25	33	5.50 (3.6 to 7.4)	1	0.04 (0.0 to 0.12)

Proxy measure 2022/23 & 2023/24 combined *versus* 2024/25

Match and training - ALL injuries

	Match injuries			Training injuries		
Season	Hours	No. inj	Incidence (95%CI)	Hours	No. Inj	Incidence (95%CI)
2022/23 & 2023/24	9439	266	28.2 (24.8 to 31.6)	36942	42	1.16 (0.81 to 1.51)
2024/25	5995	135	22.5 (18.7 to 26.3)	**27584**	**14**	**0.51 (0.24 to 0.78)**

Match and training - concussions

	Match concussions			Training concussions		
Season	Hours	No. inj	Incidence (95%CI)	Hours	No. inj	Incidence (95%CI)
2022/23 & 2023/24	9439	68	7.20 (5.5 to 8.9)	36942	4	0.11 (0.00 to 0.22)
2024/25	5995	33	5.50 (3.6 to 7.4)	27584	1	0.04 (0.0 to 0.12)

Preliminary results

INTENT TO TREAT – all injuries

	Match		
	Hours	No. inj	Incidence (95%CI)
Control	11317	321	28.4 (25.3 to 31.5)
Activate	**4116**	**80**	**19.4 (15.2 to 23.6)**

RR - 0.68 (0.53 to 0.87) 32% reduction in all match injuries

INTENT TO TREAT – concussion

	Match concussion		
	Hours	No. inj	Incidence (95%CI)
Control	11317	87	7.68 (6.07 to 9.29)
Activate	**4116**	**14**	**3.40 (1.62 to 5.18)**

RR - 0.44 (0.25 to 0.77) 56% reduction in match concussions

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Preliminary results

INTENT TO TREAT – all injuries

	Match			Training		
	Hours	No. inj	Incidence (95%CI)	Hours	No. inj	Incidence (95%CI)
Control	11317	321	28.4 (25.3 to 31.5)	49044	55	1.12 (0.81 to 1.39)
Activate	**4116**	**80**	**19.4 (15.2 to 23.6)**	**15196**	**1**	**0.1 (0.00 to 0.30)**

RR - 0.68 (0.53 to 0.87) 32% reduction in all match injuries

INTENT TO TREAT – concussion

	Match concussion			Training concussion		
	Hours	No. inj	Incidence (95%CI)	Hours	No. inj	Incidence (95%CI)
Control	11317	87	7.68 (6.07 to 9.29)	49044	5	0.10 (0.01 to 0.19)
Activate	**4116**	**14**	**3.40 (1.62 to 5.18)**	**15196**	**0**	**0**

RR - 0.44 (0.25 to 0.77) 56% reduction in match concussions

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End of study feedback

	Player feedback (36)	Coach feedback (13)
Level of play		
Majority club level	5 international	1 international

Do you or did you do a regular warm-up prior to involvement in Activate study?

	94%, 34 yes	85%, 11 yes

How long on average do you spend warming up?

0-15 mins	17 (47%)	7 (54%)
16-30 mins	15 (41%)	5 (39%)
31+ mins	3 (8%)	-

End of study feedback

Reasons for not doing a warm-up

	Players/Coach
Arriving late to session	51% 25 / 5
Lack of time	29% 14 / 5
Bad weather	27% 7 / 6
W-up too general for rugby	2 / 1
Doesn't contain rugby elements	2 / 1
No warm-up leaders	3/ 0
Lack of team buy in from players	1 / 1
Lack of space	1 / 0

End of study feedback

Reasons for not doing a warm-up

	Players/Coach
Arriving late to session	51% 25 / 5
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Bad weather	27% 7 / 6
W-up too general for rugby	2 / 1
Doesn't contain rugby elements	2 / 1
No warm-up leaders	3/ 0
Lack of team buy in from players	1 / 1
Lack of space	1 / 0

Reasons for not doing ACTIVATE warm-up

	Players/Coach
Arriving late to session	27% 13 / 4
Lack of time	14% 7 / 0
Bad weather	0 / 6
W-up takes time away from main session	0 / 5
No warm-up leaders	3 / 0
Lack of team buy in from players	0 / 3
W-up too general for rugby	1 / 1
Doesn't contain rugby elements	1 / 0
No set routine	1 / 0
Lack of space	0 / 0

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Views on injury prevention &

	Players		Coach	
Before your involvement in this study:	Yes	No	Yes	No
- was injury prevention a priority for you?	53% 19	14	9	3
- have you undertaken an IP w-up previously?	47% 17	13	6	6
- had you heard of Activate?	4	58% 21	4	67% 8
- had you used Activate previously?	6	53% 19	3	69% 9
- Did you attend the Workshop delivered by research team?	14	8	10	2
Following on from this study:				
Do you think your risk of injury has changed?	Lower risk 10		Lower risk 2	
	Higher 3		Higher 2	
	unchanged 5		unchanged 8	

Feedback

Player "Ground too hard for pop press up"

Coach "Less static movements, the warm up is not designed for Scottish Winters"

Exercise players found most difficult/enjoyed least – pop press up

Most modified exercise – pop press up

Most beneficial – arabesque, neck exercises, shoulder, snake runs

Summary

Significant reductions in match and training injury in Activate *versus* control arms

Concussion remains the most common injury in women's community rugby

Significant reductions in match and training concussions

Challenges to its use of Activate in women's community rugby

NEXT STEPS

Full analysis (severity & burden of injury & concussion)

Per protocol analysis – dose response / uses per week

Activate adherence, modifications, player/coach feedback

Potential future modifications to current Activate programme

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Thank you

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Disclosures

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World Rugby
Scottish Rugby Union

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