Biomechanical Analysis of Spinal Immobilisation during Prehospital Extrication: A Proof of Concept Study

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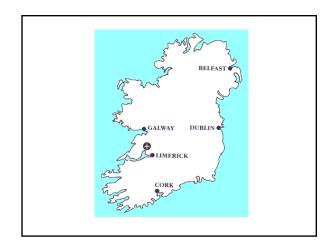


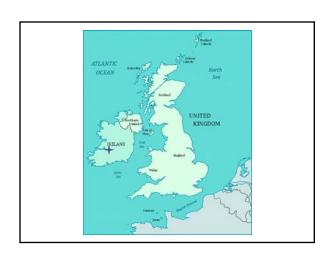
Participants







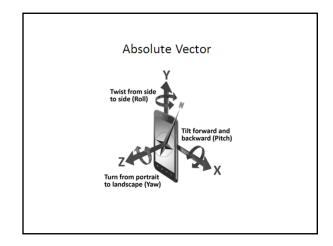








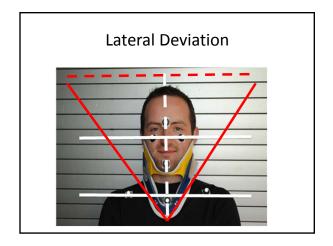


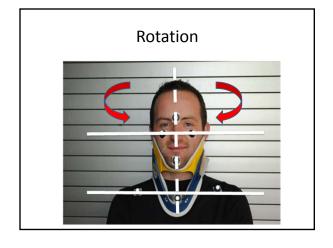




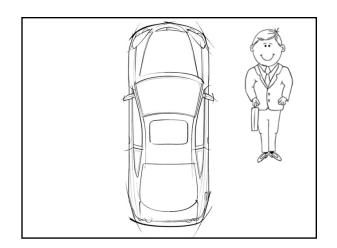


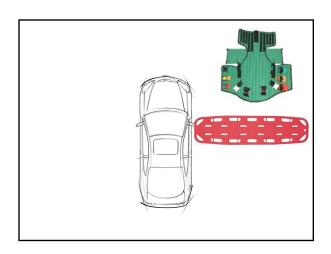
Flexion or Extension

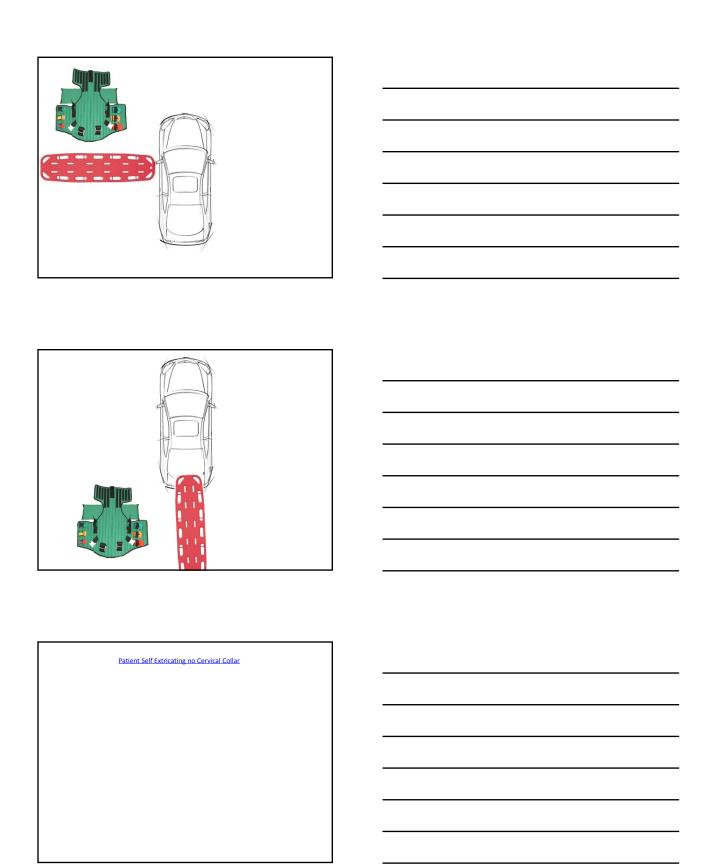


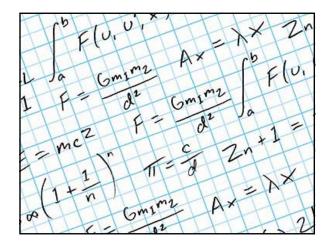




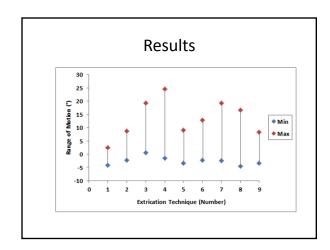








	Control	Control	LSB	KED	LSB	KED	LSB	KED	KED
		+manual	In-line	In-line	Passenger	Passenger	Driver	Driver	Driver
		support							(-R)
No.	1	2	3	4	5	6	7	8	9
Average	-0.1892	0.2916	9.8492	3.8360	0.1867	0.6457	0.8420	0.4614	0.5676
StDex	1.0250	1.9048	3.3133	3.4530	1.3082	2.5254	2.6313	3.2789	1.1899
Min	4.1938	-2.2253	0.6195	-1.5876	-3.4602	-2.1920	-2.4700	-4.5456	-3.3654
Max	2.4082	8.7747	19.3584	24.4980	9.0129	12.8695	19.1965	16.6825	8.3524
Range	6.6020	11.0000	19.9779	26.0856	12.4731	15.0615	21.6665	21.2281	11.7178



Conclusion

- Traditional extrication techniques and equipment can cause up to a four fold increase in the absolute vector movement of the 'c'spine
- Further multi centre trials are required to establish grounds for a complete paradigm shift in pre hospital extrication of stable patients

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