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## The Use of Ability Based Training in Police Force Recruits

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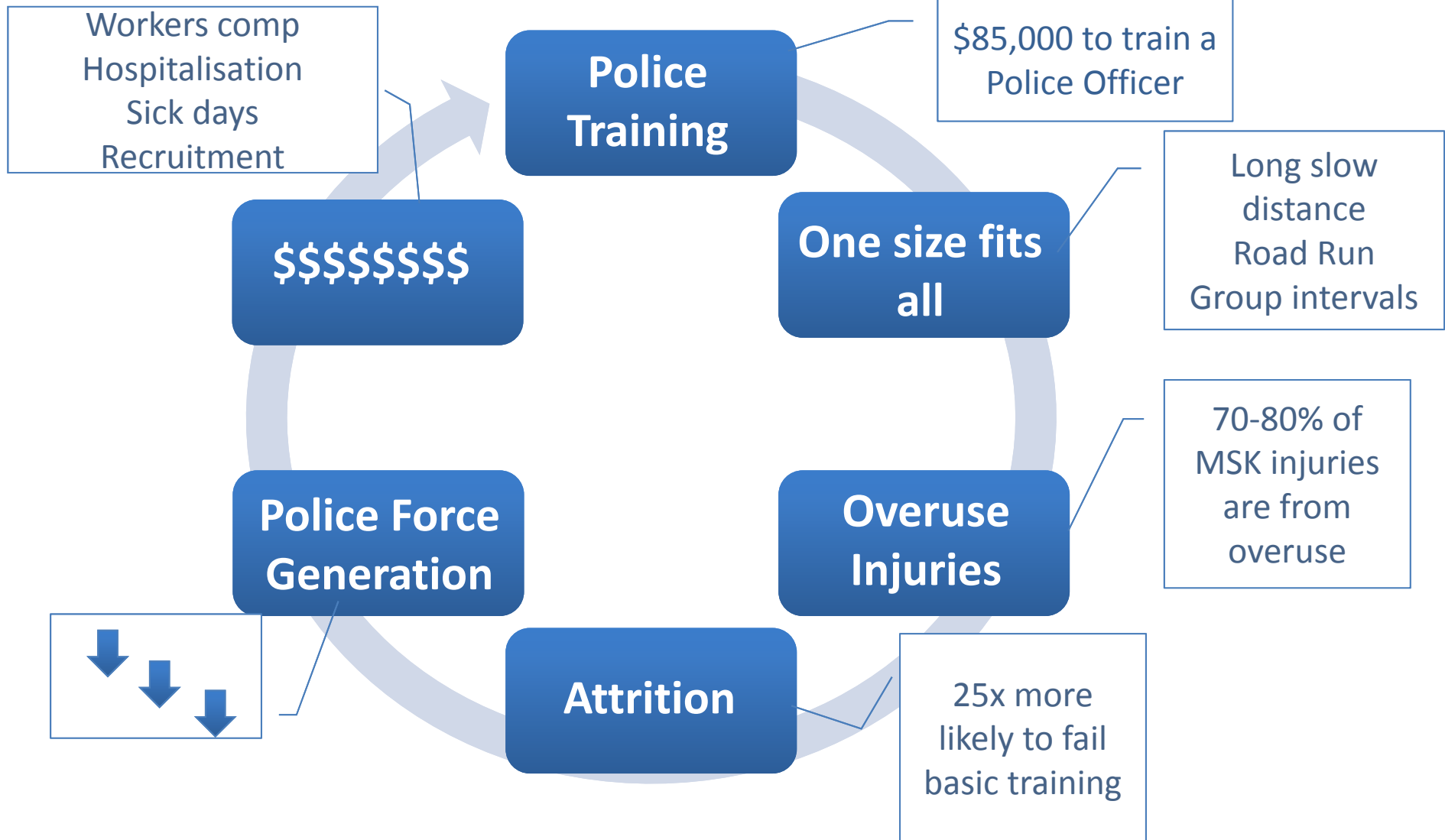
# The Use of Ability Based Training in Police Force Recruits



**A/Prof Rob Orr; SGT Michael Stierli; Ms Kelsie Ford**



# Background

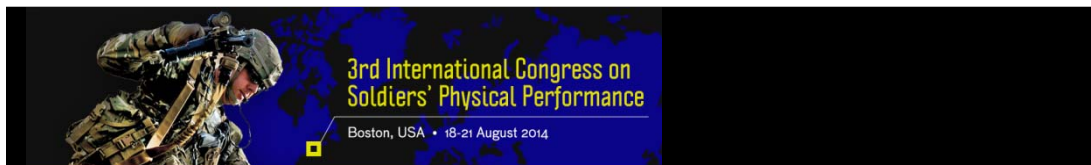


# Background



## Ability-Based Training (ABT):

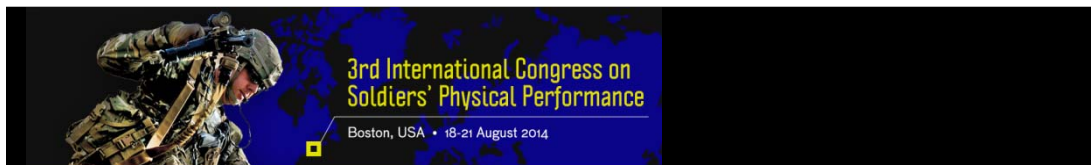
- Tailoring physical training (running) programs to the ability level of the individual or group
- Removes the ‘One size Fits all’ approach without compromising fitness benefits and saving time
- Proven to ↓ injury risk and severity in military populations without compromising fitness (Knapik et al, 2003; Orr, 2010)



# Aim

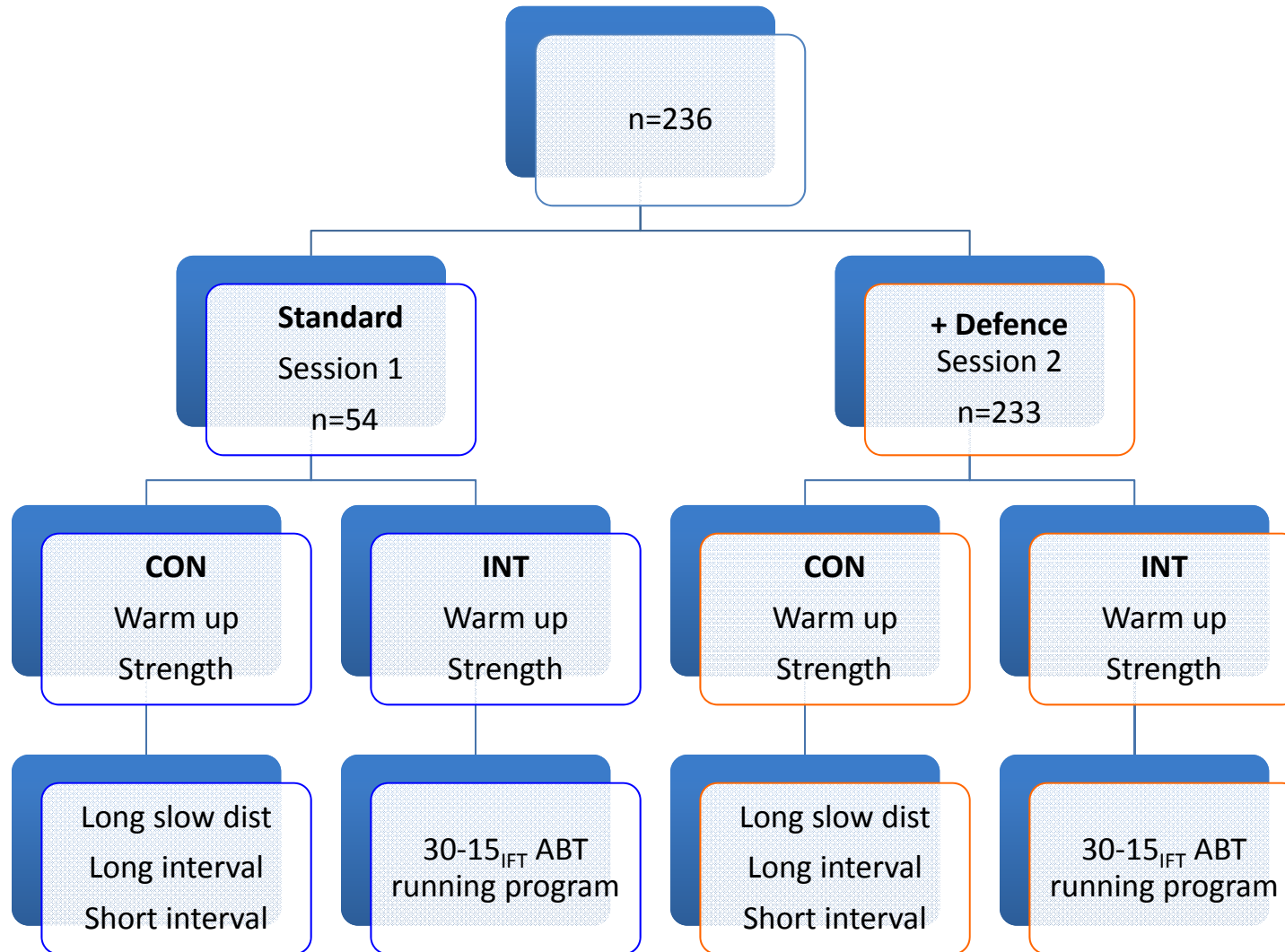


- The aim of this study was to investigate whether an Ability Based Training (ABT) program derived from the 30-15 Intermittent Fitness Test (IFT), would improve the aerobic fitness of police recruits to the same extent as current training processes, in less time and with fewer injuries.





# Methods



# Methods



## Control Group - Current Police recruit physical training for metcon:

- Long slow distance running: Long interval training (400m): Some short interval training (20m)

## Intervention Group – 30-15 Derived metcon program

- Interval distance was derived from the formula: *Interval distance = running speed in m/s (score) x % of effort x duration of interval.*
- % of effort increased by 2.5% from 90% in Week 1 to 97.5% in Week 4 then 92.5% in Week 6 to 100% in Week 9
- Each cycle = 10s on: 10s off for 6 mins
- Cycles: Weeks 1-4 = 2 cycles with 2 min rest between:  
Weeks 6-9 = 3 cycles with 3 mins rest between
- Weeks 5 & 10 Rope Run ‘team challenge’



# Methods

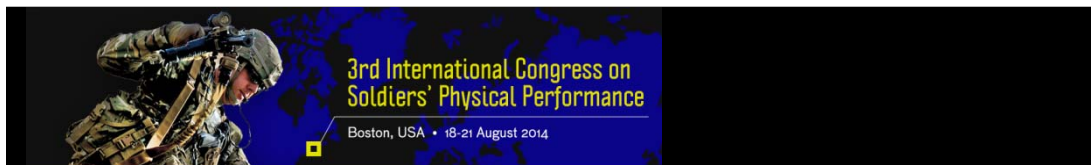


## Outcome measures

- 20 Meter Progressive shuttle run test
- Injury rates: determined through injury data collected from the Academy's Accident and Incident forms and database

## Analysis

- SPSS v20, alpha .05
- T-tests were used to investigate differences in fitness between (independent) and within (paired) cohorts
- Chi-squared test investigating differences in injuries between cohorts





# Results



## Initial Data - Session 1 and Session 2

Session		Subjects		30-15 <sub>IFT</sub> (Score) M(SD)	MSFT (# Stages) M(SD)
		Male n	Female n		
Session 1	Control	20	5	16.36 (1.71)	8.2 (1.68)
	Intervention	14	6	16.56 (2.10)	8.3 (1.78)
Session 2	Control	59	37	16.62 (1.63)	8.2 (1.49)
	Intervention	59	36	16.45 (1.71)	7.9 (1.60)

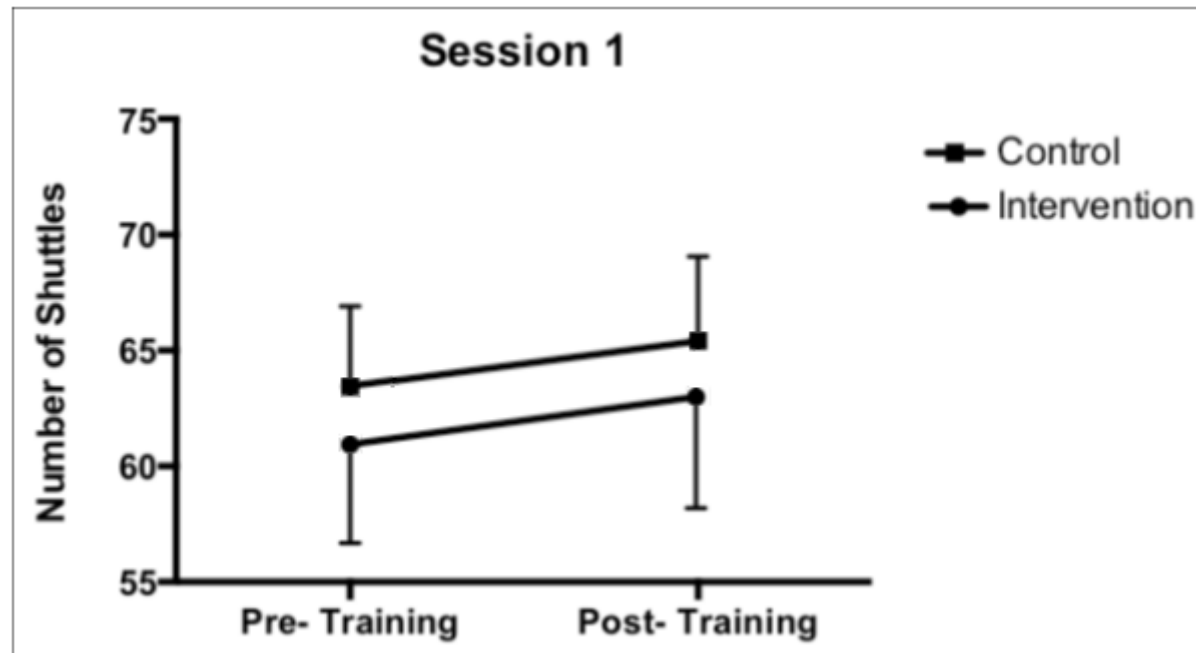
- No sig difference between CON and INT groups in Session 1 and Session 2
- No sig difference between Session 1 and Session 2



# Results



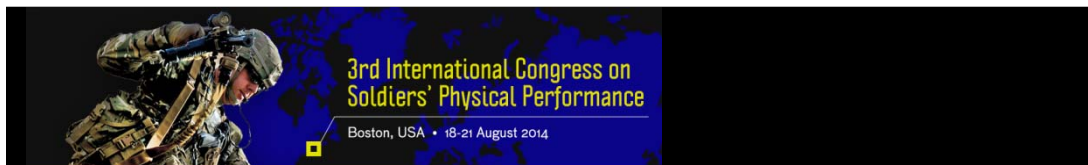
## *Number of Shuttles Completed pre and post training- Session 1*



No significant improvement Control pre vs post,  $p=0.476$

No significant improvement Intervention pre vs post,  $p=0.493$

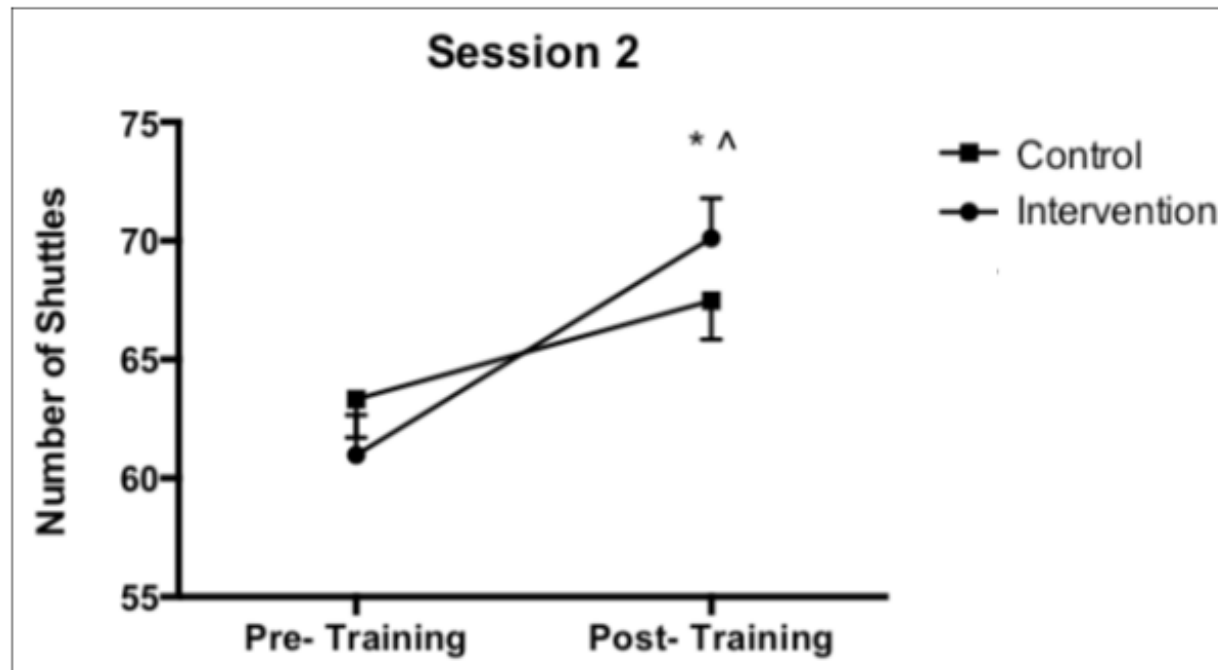
**No significant difference between Control and Intervention post training,  $p=0.09$**



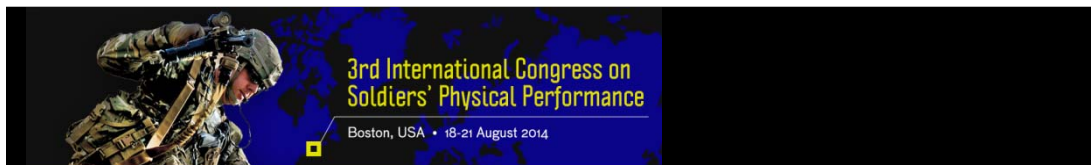
# Results



## *Number of Shuttles Completed pre and post training- Session 2*



\* $p < 0.0001$  Control pre vs post    ^  $p < 0.0001$  Intervention pre vs post



# Results

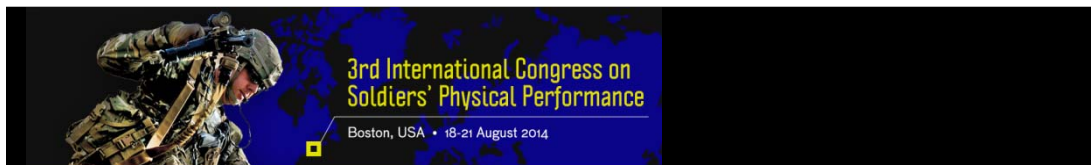


	Session 1		Session 2	
	Control	Intervention	Control	Intervention
Size n	29	25	118	115
Injuries n (%)	4 (14%)	1 (4%)	12 (10%)	7 (6%)
Injury sites	Foot x1	Foot x 1	Foot x1	
	Knee x 2		Knee x 3	
	Back x 1			Back x 2
			Ankle x 2	Ankle x 1
			Calf x 1	Calf x 1
			Lower leg x 3	Lower leg x 2
			Wrist x 2	Finger x 1

# Conclusion



- Recruits who did the ABT maintained/improved aerobic fitness comparable to their standard physical training counterparts
- Injury rates were lower in ABT groups
- ABT groups performed significantly less mileage, were running **for less time** and arguably trained for the required demands of their occupation (intermittent)
- Saved time ...
  - Does a specific conditioning program introduced in ‘spare’ time decrease injury potential?





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