

# Utilising Functional Movement Screen and Y-Balance Test as Evaluation Tools in Officer Cadet Training Programme

## BACKGROUND

A comprehensive training program during basic military training is crucial to prepare soldiers for various physical demands and future challenges. Using assessment tools such as the Functional Movement Screen (FMS) and Y-Balance Test (YBT) assist trainers evaluate fundamental movements, identify biomechanical issues, and assess dynamic strength, stability, and motor control, providing valuable feedback on overall physical performance.

## AIM

To determine changes in FMS and YBT score as a tool to assess and monitor the overall outcome of the Officer Cadet's training programme.

## METHOD

### Data Collection:

Pre-training

Vs.

Post-training

Before enlistment

Before commissioning

Population	
Gender	141 Males, 65 Females (N=206)
Age	25.1 ± 1.6 years old
Height	1.64 ± 0.07cm
Weight	63.5 ± 9.2kg

Table 1: Population Characteristics

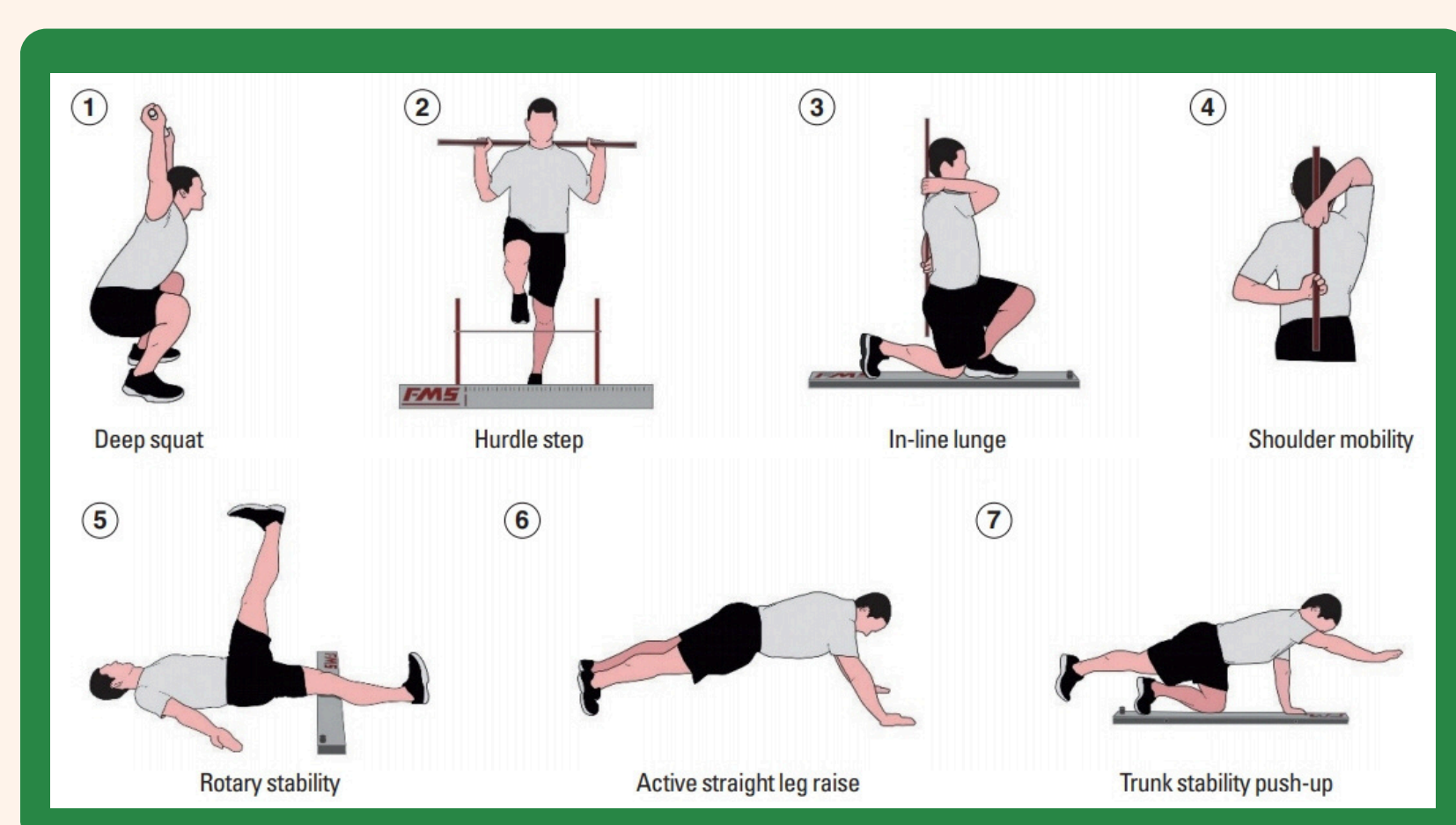
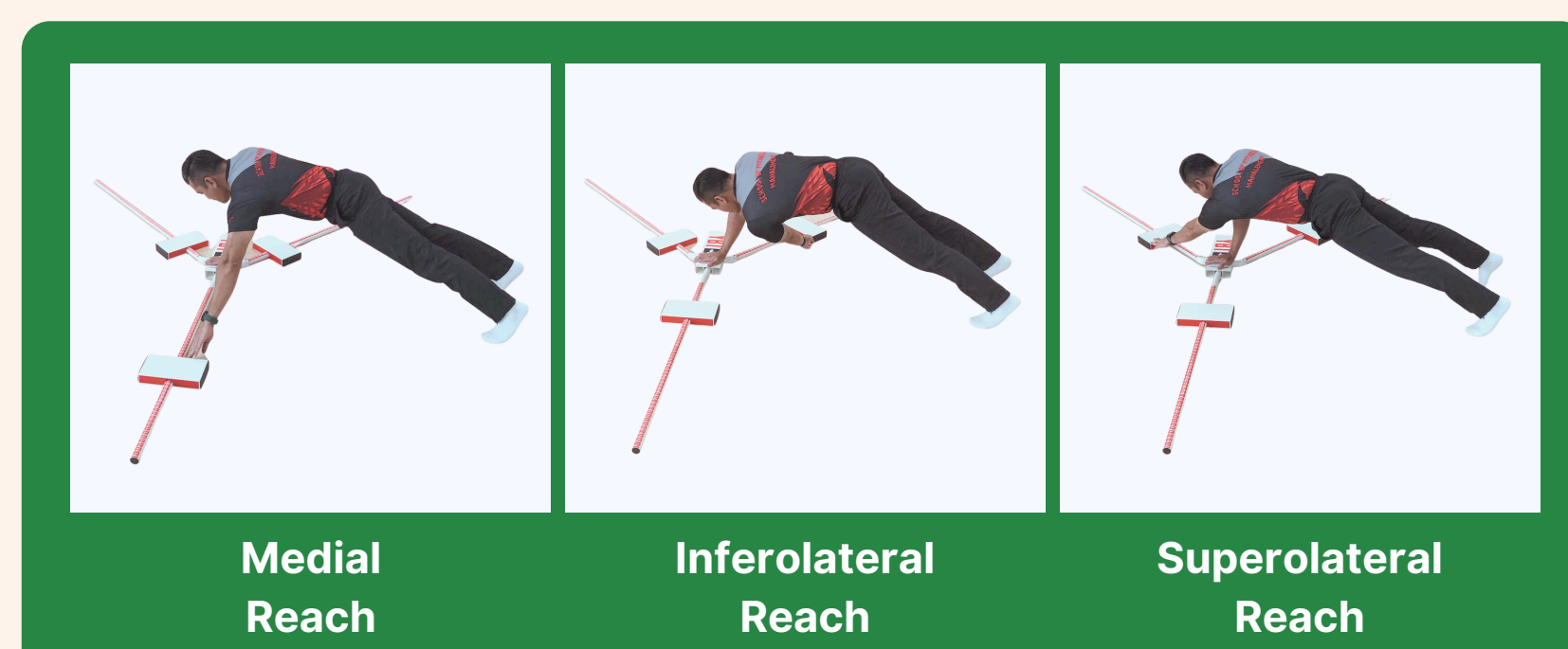


Figure 1: The Seven FMS Test Station

Upper Quarter



Lower Quarter

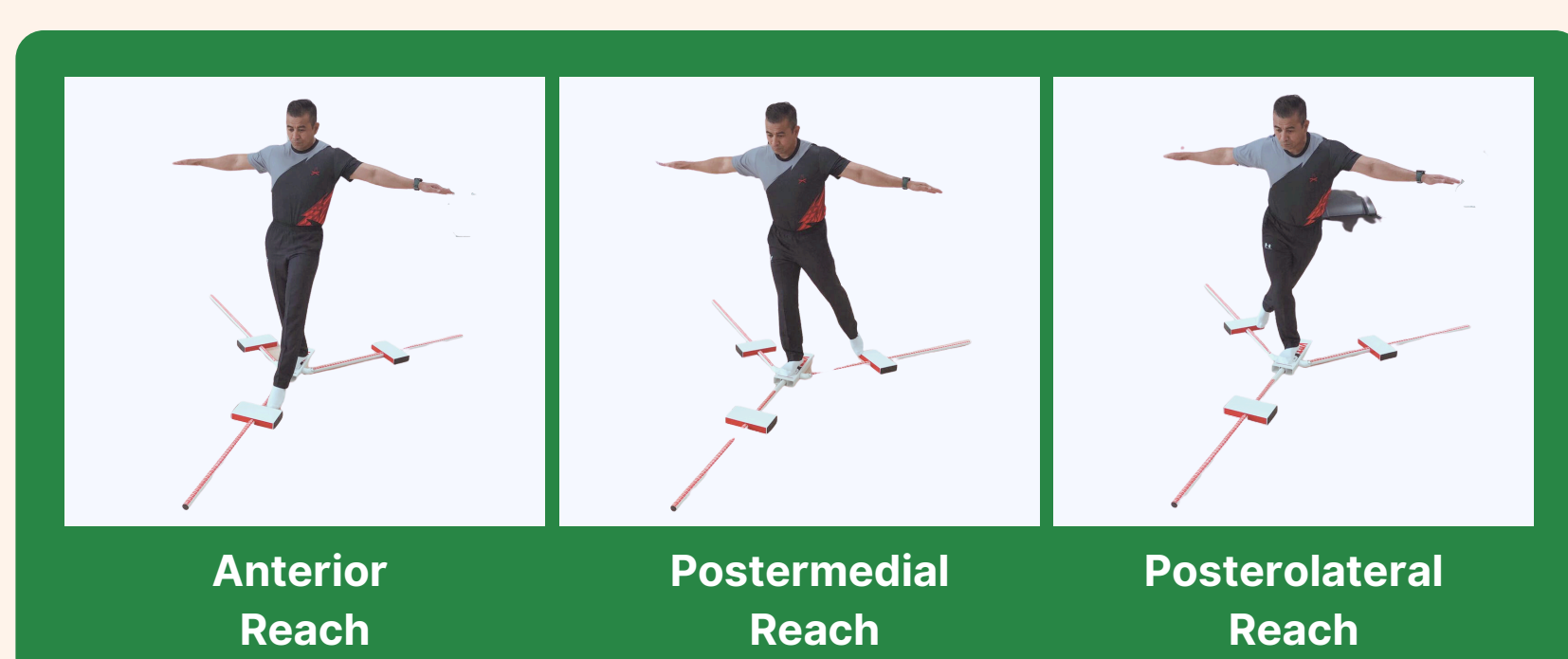


Figure 2: YBT stations

Paired samples T-test was used to compare the FMS sum scores and YBT composite scores before and after training.

## RESULTS

- Cadets showed improvement in the mobility, stability and motor control, and experienced fewer biomechanical limitations.
- However due to the FMS sum scores of <14, the design of the programme may pose a risk to the occurrence of musculoskeletal injuries if training was not conducted properly.
- An overall improvement was also observed on shoulders and core strength as well as lower limb stability. However, the training techniques did not address asymmetries that were present in lower limb muscles.

### FMS Mean Sum Score

Pre-	Post-	P-Value
13.05	13.56	P<0.05*

### YBT Mean Composite Scores

	Pre-	Post-	P-Value
Right Upper Quarter	90.59	94.16	P<0.05*
Left Upper Quarter	90.63	94.76	
Right Lower Quarter	101.18	101.38	
Left Lower Quarter	101.16	100.82	

Table 2: FMS and YBT results Pre- & Post- Training

## CONCLUSION

FMS and YBT serve as both assessment and screening tools, offering baseline readiness information and monitoring changes in Cadets' overall performance before and after training. Consistent assessments at different time intervals throughout the training program provide valuable feedback, allowing planners and trainers to adjust and improve the program as needed.

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