

# Impaired Jumping Performance Arising from Sedentary Growth is Recovered through Exercise in Adulthood

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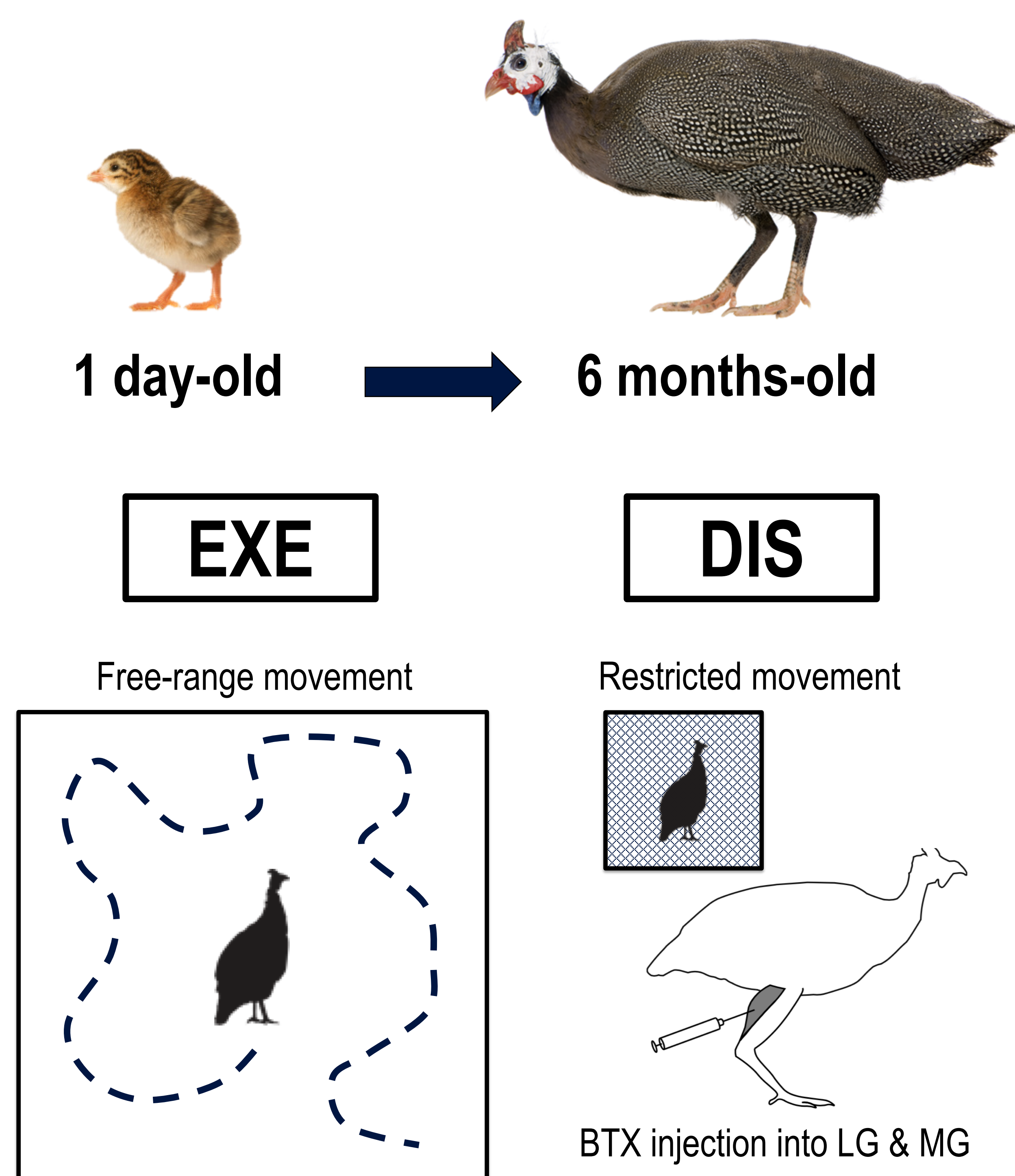
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## Purpose

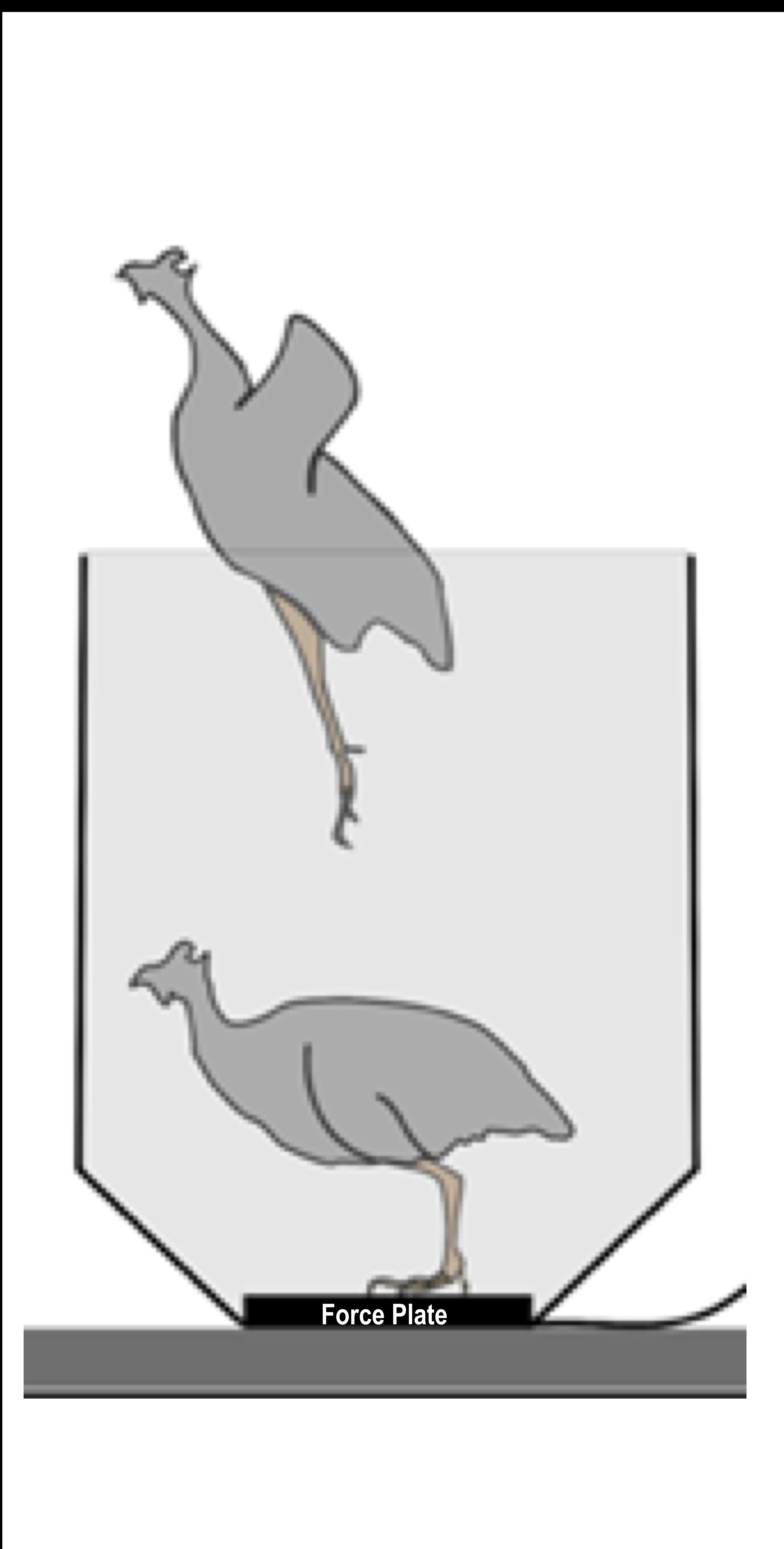
To study:

1. Effects of growth-period inactivity on performance (vertical jumping)
2. Extent to which maladaptation can be reversed via activity in adulthood.

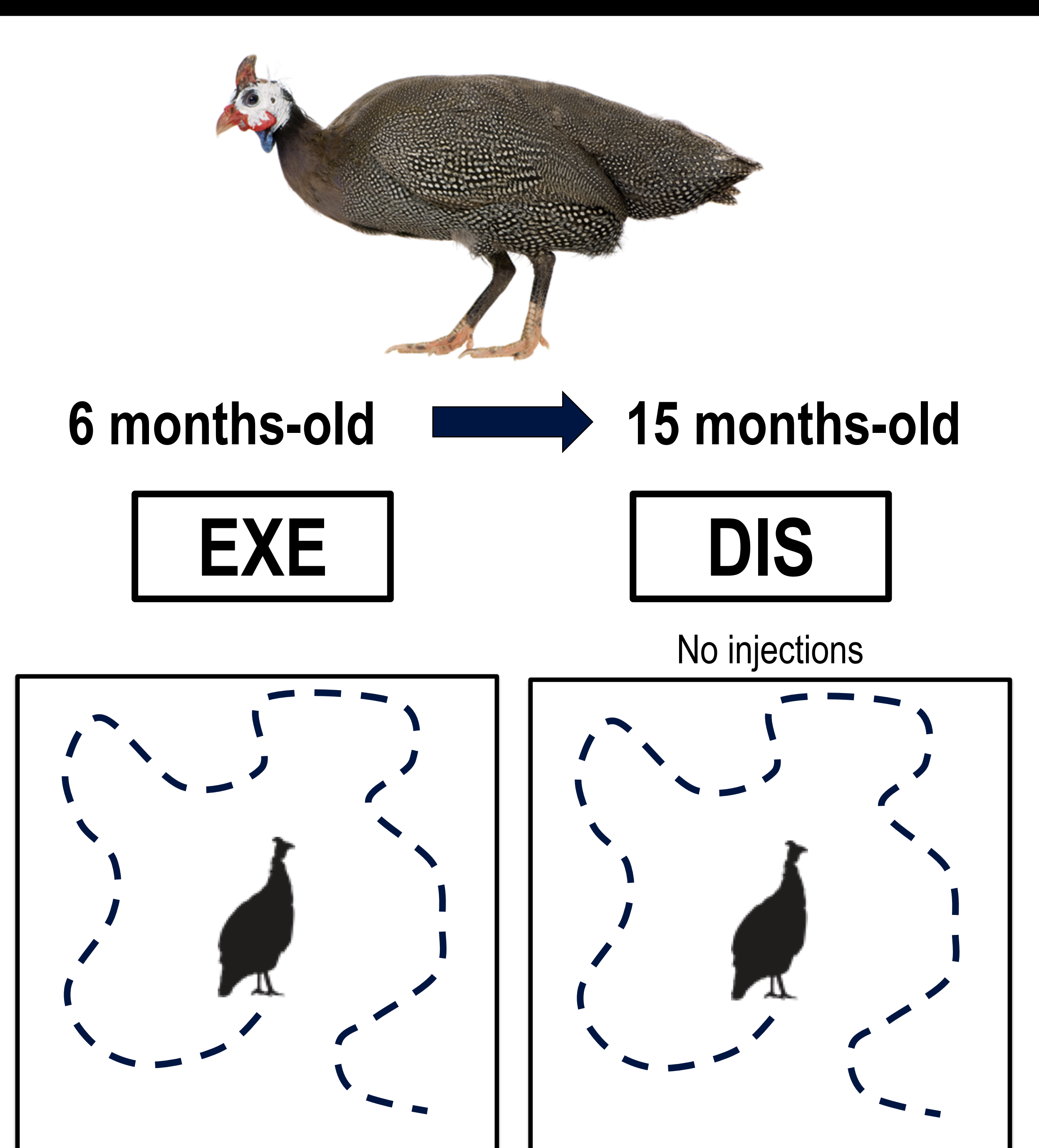
## Growth Phase



## Jumping Task



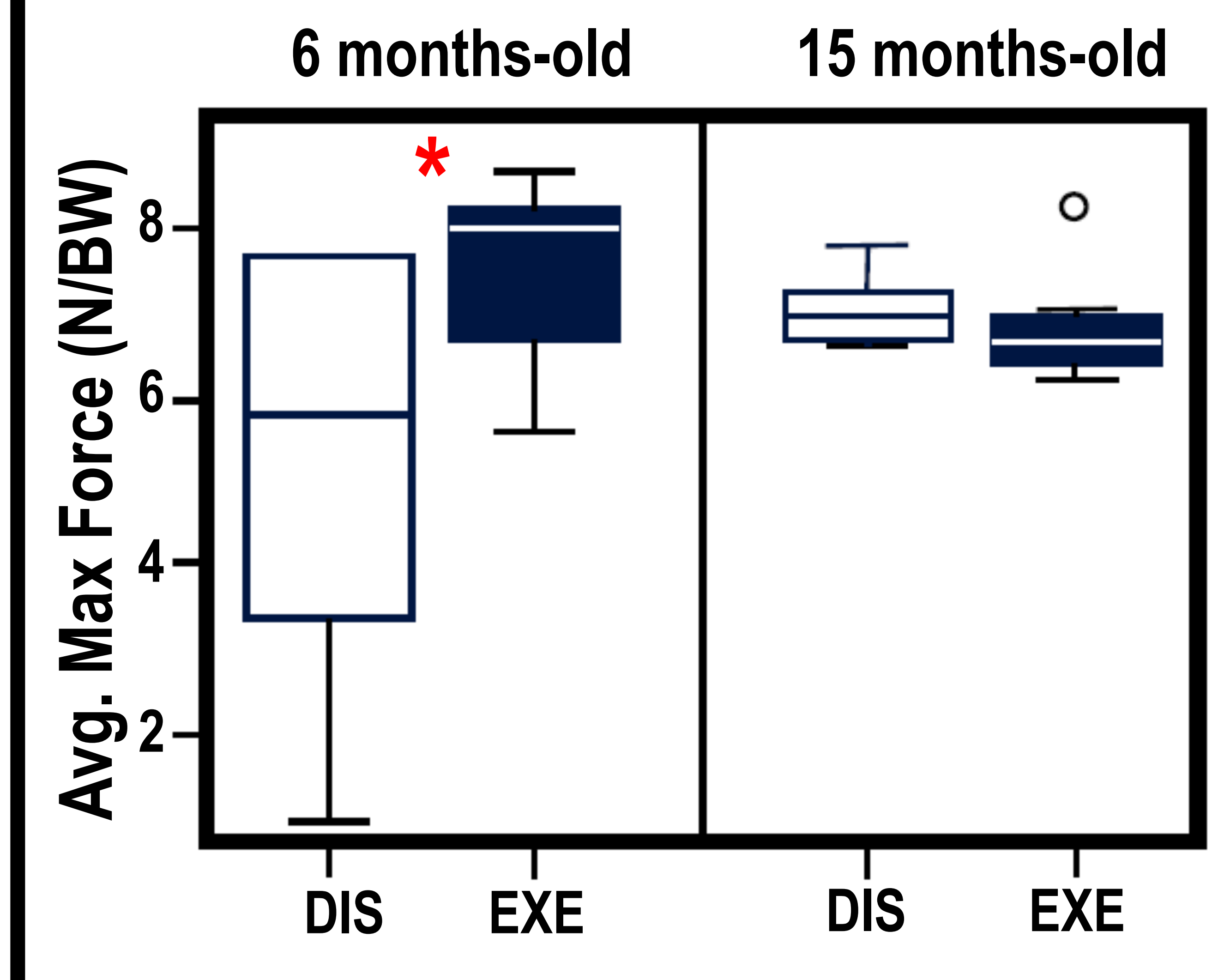
## Adult Phase



## No difference in body mass

(kg)	DIS	EXE
6 months-old	1.69	1.70
15 months-old	1.91	1.85

## Performance deficit recovered with adult activity



## Conclusion

Inactivity during growth results in functional impairment that can be reversed with an active adulthood.

## Future Directions

Explore dose-response relationship between activity level and functional capacity

## Future Analyses

Sub-maximal  $\text{VO}_2$   
Muscle morphology  
Ankle moment arm



**PennState**  
muscle function  
+ locomotion lab

