



## FaST-PD III

# Cardiovascular Exercise to Facilitate Motor Skill Learning in Parkinson's Disease III

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External partners: -

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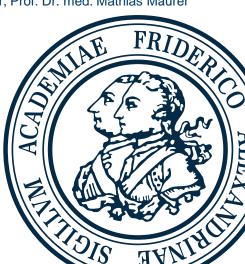


Molekulare Neurologie Ambulanz für Bewegungsstörungen





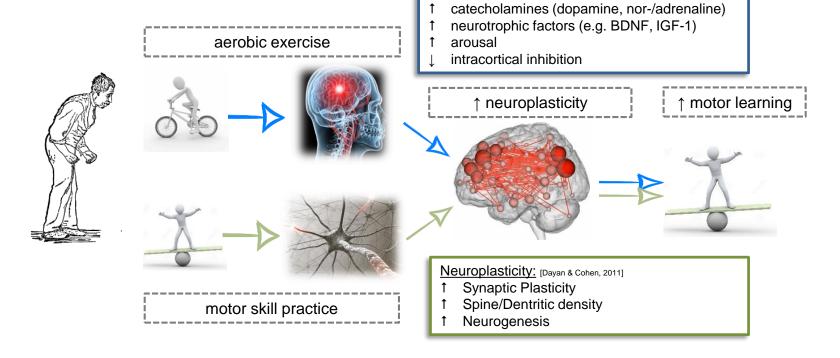








# Background & aims



Acute effects: [Taubert et al., 2015]

[Hillman et al., 2008; Petzinger et al., 2013; Roig et al., 2012; Roig et al., 2016; Taubert et al., 2015]



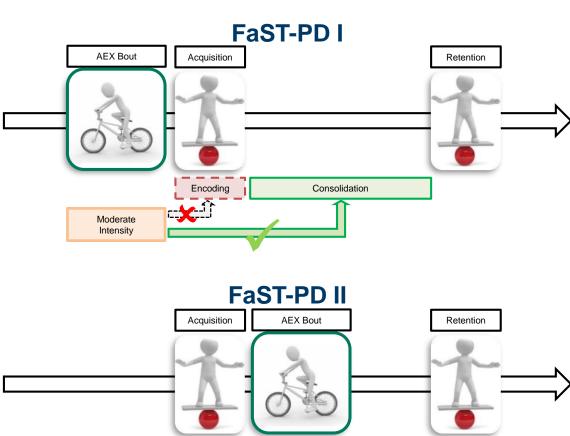


### Background & aims

Results FaST-PD I: Aerobic exercise (AEX) significantly enhanced motor memory consolidation, but had no effects on motor memory encoding in Parkinson disease (PD)

[Steib et al. Front Aging Neurosci 2018]

- Results FaST-PD II:
  Aerobic exercise(AEX) immediately after memory acquisition task showed significantly enhanced motor memory consolidation at 7-day retention test
- Aim FaST-PD III: Apply these findings on a long-term intervention and investigate the effects of AEX performed after motor skill practice over a 6-week training period



Encodina

Consolidation **↑** 





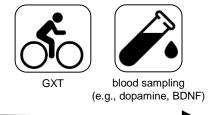
## Experimental Flow for FaST-PD III

#### **Experiment**

(experimental design, group allocation randomized)

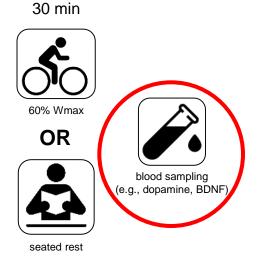


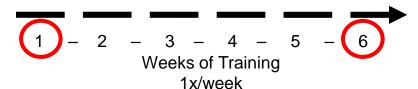
clinical examination



skill practice
1 familiarization trial
15 acquisition trials









retention test clinical examination





blood sampling (e.g., dopamine, BDNF)

Follow-Up

pre-examinations