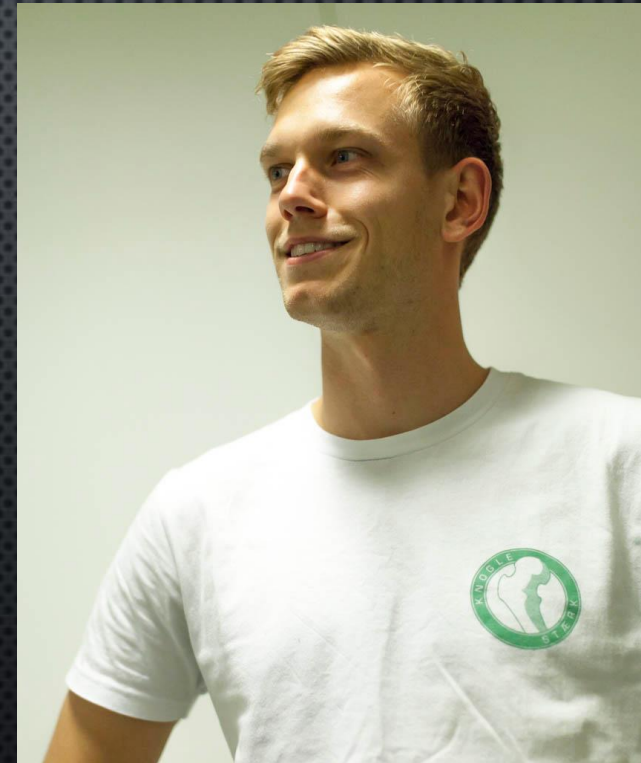


HOW TO PREVENT OSTEOPOROSIS



Magnus Bendtsen
Master in Sport Science



Simon Estrup
Master in Sport Science



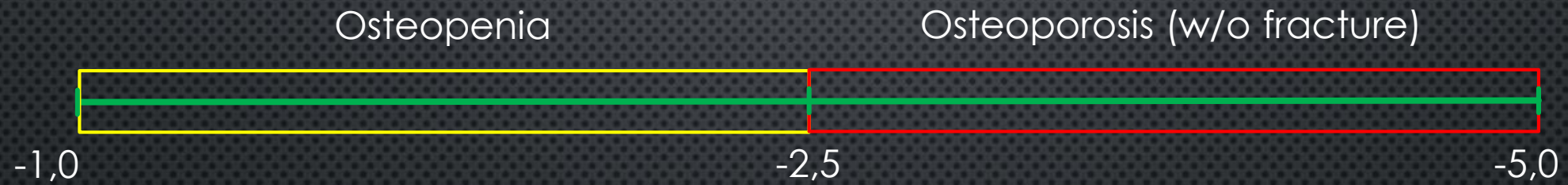
"BONE STRONG"

HOW TO PREVENT OSTEOPOROSIS

- EXERCISE RECOMMENDATIONS
- THE LATEST EVIDENCE
- PROMISING STUDIES
- WHO SHOULD WE TARGET?



T-score



EXERCISE RECOMMENDATIONS

- WEIGHT BEARING ACTIVITIES
- RESISTANCE TRAINING

EXERCISE RECOMMENDATIONS

- MODERATE RESISTANCE TRAINING
- WALKING AND LIGHT JOGGING

THE LATEST EVIDENCE

HOWE ET AL. 2011

- 43 RCT'S REVIEWED
- DIFFERENT TYPES OF EXERCISE
- MAIN OUTCOME: BMD



Cochrane

OVERALL CONCLUSION

*"OUR RESULTS SUGGEST A RELATIVELY
SMALL STATISTICALLY SIGNIFICANT, BUT
POSSIBLY IMPORTANT, EFFECT OF
EXERCISE ON BONE DENSITY IN
POSTMENOPAUSAL WOMEN
COMPARED WITH CONTROL GROUPS"*

MCMILLAN ET AL. 2017



PROGRESSIVE RESISTANCE TRAINING

↑ BMD IN WOMEN

↔ BMD IN MEN

HIGH IMPACT ACTIVITY

↔ / ↑ BMD IN WOMEN





WHOLE-BODY VIBRATION THERAPY

↔ BMD IN WOMEN

↓ FALLS AND FRACTURES

HIGH INTENSITY WALKING

↔ BMD IN MEN AND WOMEN

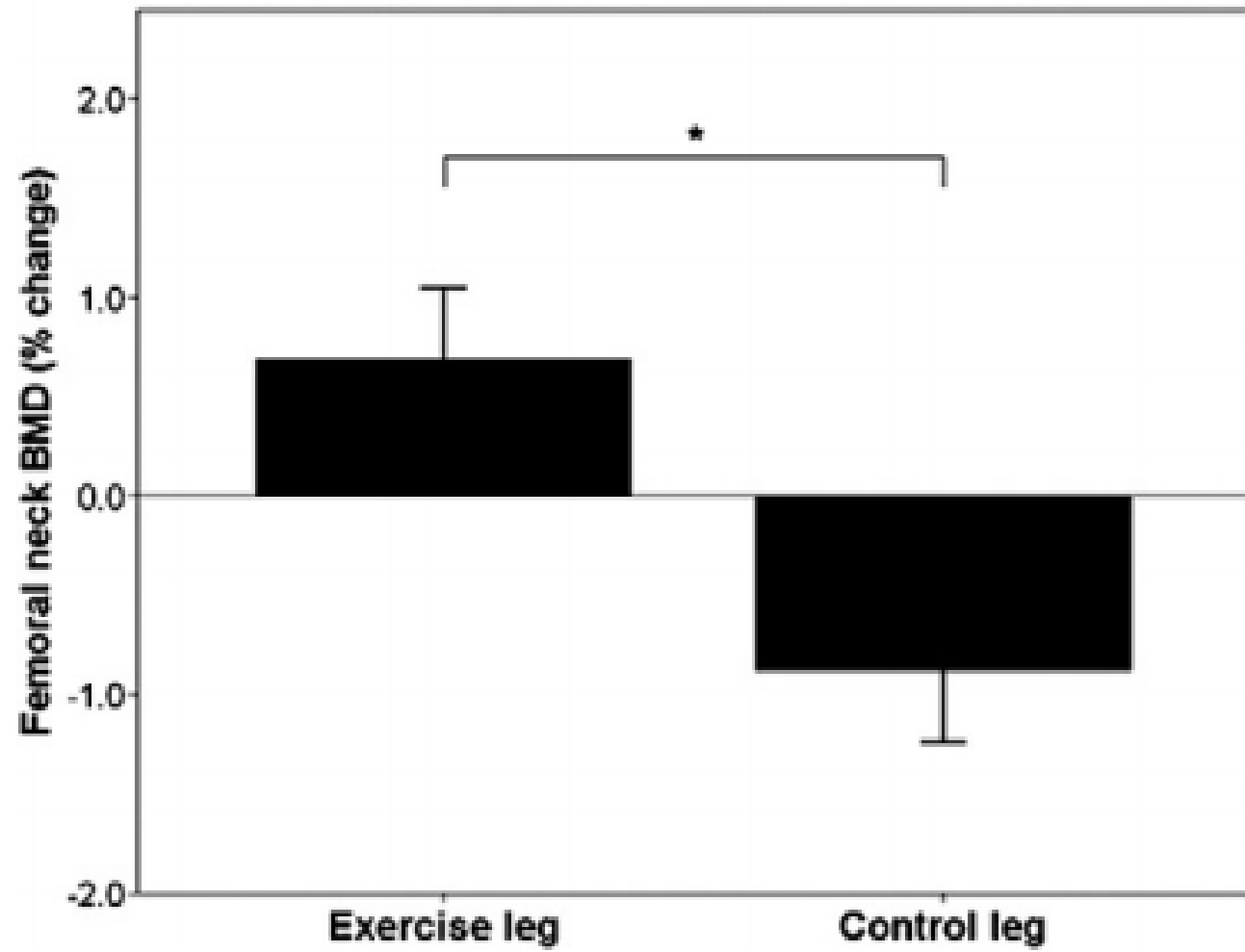


PROMISING STUDIES

1. PROMISING STUDY

- 35 MEN – OSTEOPENIA
- AGE: ~70
- 12 MONTHS INTERVENTION
- 20-50 UNILATERAL JUMPS
- 7 SESSIONS PER WEEK

BMD: % change Femoral neck



2. PROMISING STUDY

- WOMEN T-SCORE: -1,3 TO -2,9
- T: 49 C: 52
- AGE: 65
- 8 MONTHS INTERVENTION
- 2 X 30 MINUTES PER WEEK

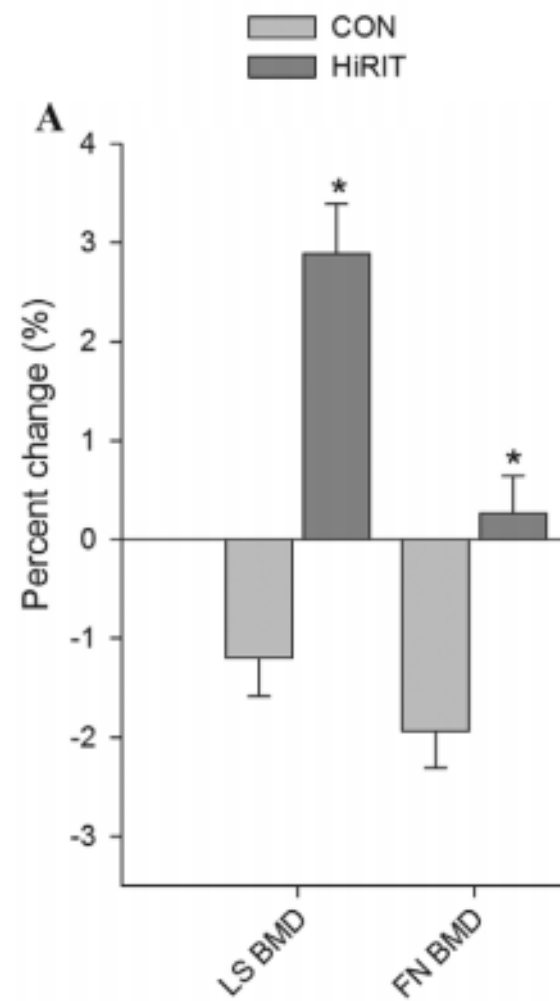
CONTROL GROUP

- HOME-EXERCISE
- LOW INTENSITY (60% 1 RM)
- MOBILITY AND BALANCE

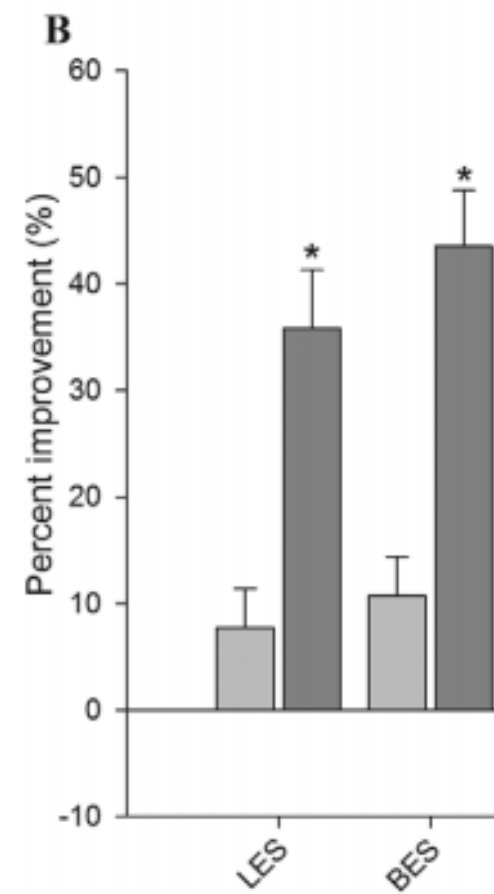
EXERCISE GROUP

- SUPERVISED
- HIGH INTENSITY (80-85% 1 RM)
- DEADLIFT
- OVERHEAD PRESS
- BACK SQUAT
- JUMPING CHIN-UPS WITH DROP LANDING

BMD



Muscle strength



WHO SHOULD WE TARGET?

BACK TO
WATSON ET AL 2018

- HIGHLY SUPERVISED EXERCISE
- 8 MONTHS OF PROGRESSIVE TRAINING
- WOMEN WITH OSTEOPENIA AND OSTEOPOROSIS
- HARD TO DO – BUT WORTH THE EFFORT
- INEFFECTIVE GUIDANCE MAY DO MORE HARM

T-score



POSSIBLE FUTURE EXERCISE RECOMMENDATIONS

- PROGRESSIVE RESISTANCE TRAINING
- HIGH IMPACT AND WEIGHT BEARING ACTIVITIES

TAKE HOME

OSTEOPENIA \approx MILD OSTEOPOROSIS

Prevention **AND** Treatment

PRT & HIT

- THANK YOU FOR YOU ATTENTION

