Electronic database searches Medline (n=1674), Embase (n=798) and Cinahl (n=403)

Title and abstract screening (n=2875)

Excluded (n=1289) (Label A)

Handsearching (n=719) (Label C)

Included (n=867) (Label B)

Label A: exclude (irrelevant studies, no activity monitor involved, child population,...)
Label B: order for full text assessment (papers directly addressing issues related to validity of an activity monitor)
Label C: handsearch for reference only (clinical trials using activity monitoring as an outcome and where a reference towards a validation paper may be embedded).

58 new references for full text assessment

Full text assessment (n=320)

Excluded (n=29)

Included (n=105)

Validation papers (n=29)

Data extraction + analysis

40 field validation papers (with DLW as criterion method)

86 lab validation papers (with metabolic cart, manual counting and/or video observation as criterion method)

8 field + lab validation papers