Contributions of quantified movement analysis (QMA) in assessment of medical devices such as orthosis

Noel Martinet*, Isabelle Loiret, Jean Paysant
IRR, UGECAM Nord-Est, Centre de Médecine Physique et de Réadaptation Louis-Pierquin, Nancy, France
* Corresponding author.
E-mail address: noel.martinet@ugecamne.fr (N. Martinet)

Opinion/Feedback QMA brings together the different measurement methods that can help the clinician in providing relevant evidence concerning orthosis effectiveness according to its functional purpose: immobilize, stabilize, fix, supply, and control.

The choice of sensors and variables which can be analyzed (kinetic, cinematic, energy, attention load) will be adapted to the objectives of the study with regard to measuring capacity and/or performance or use optimization of the medical device (biofeedback). While the patient is still ‘in fine’ the indirect beneficiary of a clinical study, the choice of the measuring tool will depend on the direct beneficiary of the results (patient, prescriber, prosthetist, rehabilitation team, manufacturer, Medicare...); this amounts to defining the main criterion of the study.

QMA provides such a substantial amount of data that it is always possible to find a significant variable, but is it relevant with regard to the framework used and the sponsor of the study, the environmental conditions, or coherent with the patient and his orthosis’s journey?

This presentation illustrates the relevance of QMA in medical device assessment using, as a common thread, examples of research hypotheses from various actors involved in orthosis choices.

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