

The Use of 3D Motion Analysis in the Rehabilitation of Patients with Degenerative Osteoarthritic Knee

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The technology of three-dimensional (3D) motion analysis has drawn increasing attention in the rehabilitation of degenerative osteoarthritic knee (OAK). Through the kinetic and kinematic data measured from the 3D motion analysis in OAK patient, clinically it can help to identify the problem and to design a tailor-made rehabilitation strategy accordingly. The findings from 3D motion analysis also show significant impact on the proprioceptive training with strategy of specific alignment correction in the functional activities. Previous studies had suggested that physiotherapy programme with 3D motion analysis, proprioceptive training and strengthening exercise was found to be able to lower the peak adduction moment of knee joint hence significantly decrease the compressive force over the medial knee and delay the progression of disease.

In this presentation, experience from Prince of Wales Hospital on how to incorporate the kinetic and kinematic data from 3D motion analysis in the rehabilitation of OAK will be shared; and the effects of our physiotherapy programme including stretching, mobilisation, strengthening, alignment correction and integrated proprioceptive training on the peak knee adduction moment, pain (numerical global rating scale (NGRS), knee function (Oxford knee Score) and functional outcome (Time up and go test) will also be evaluated.

