Improving battlefield-feasible diagnostic capabilities: next-generation diagnostic devices for individuals suffering from limb loss

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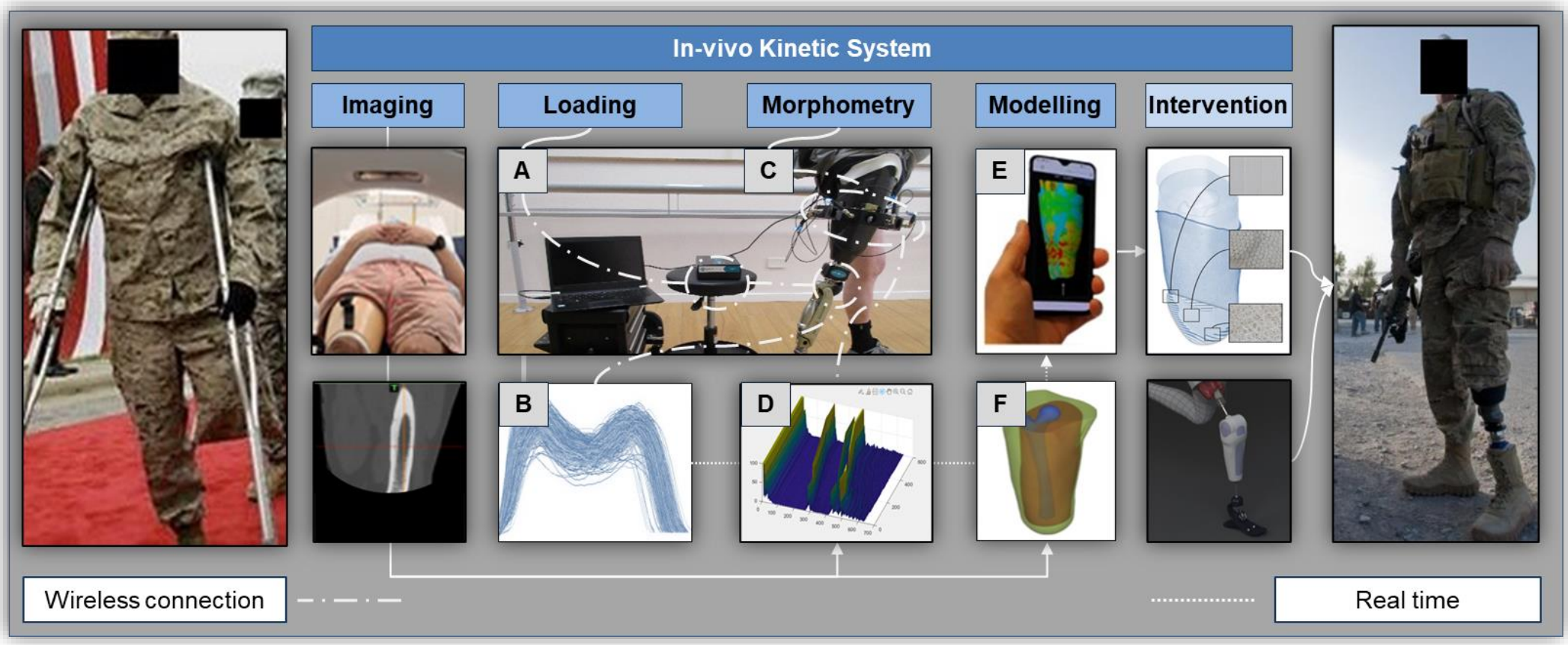
Implications for Defence

The In-vivo Kinetic System 2.0 will be a **critical element of multifaceted VA's retention strategies:** battlefield-feasible diagnostic capabilities, decision support tools for prescription of conventional and bionics components, treatment strategies restoring pre-injury function, opportunities to return to duty post-injury, reducing healthcare costs and socio-economic burden associated with limb loss



Background

Medical Care providers are unable to establish true causal relationships between factors determining residuum health and the prescription of personalized interventions

Aims

Present In-vivo Kinetic System 2.0 (Figure 1); integrating loading measurements (A, B), morphometric using ultrasonography (C, D) and computational models (E, F)

Methods

The wearable and non-invasive In-vivo Kinetic System 2.0 was developed using the Biodesign Innovation process

Results

This device could establish the cause-effect relationship between prosthetic care interventions and residuum neuromusculoskeletal dysfunctions

References

- Frossard et al. Frontiers Rehabil. Sci. 2022,18;3:950481
- Frossard et al. J Sci Med Sport. 2023, 26 Suppl 1:S22-S29

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