REPORT DOCUMENTATION PAGE

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2018	Technical Note	2013 - 2016

4. TITLE AND SUBTITLE
Hardware Set-Up Recommendations for an Outdoor Motion Capture System with an Application in Overground Running

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5b. GRANT NUMBER
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5c. PROGRAM ELEMENT NUMBER

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13. SUPPLEMENTARY NOTES

14. ABSTRACT

Gait analysis laboratories are a successful and useful resource in the medical field, but oftentimes, progressed rehabilitation and testing requirements outgrow the restrictions of an indoor laboratory. Naval Medical Center San Diego's (NMCSD) mobile motion capture system is used to collect overground running data on part of an outdoor 400m track. The set-up consists of 12 Raptor-E motion capture cameras (Motion Analysis Corp., Santa Rosa, CA) collecting 3D positional kinematic data at 300Hz and four portable force plates (Kistler Instrument Corp., Amherst, NY) collecting kinetic data at 1800Hz. Placing the motion capture cameras on tall tripods and aiming them down at the capture volume prove successful at minimizing extraneous reflections caused by sunlight reflecting off surrounding objects. Aluminum plates are positioned underneath all force plates and spacers to decrease unwanted movement that is a result of being placed on a polyurethane track. This short communication is designed to share the set-up techniques of a successful outdoor, overground motion capture system collecting accurate and reliable data that is comparable to a more controlled indoor environment. The ability to confidently collect data under such conditions permits the freedom to study a range of activities

15. SUBJECT TERMS
running, motion capture, portable force plates, kinetics, kinematics

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
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