

# Engineering and Technology in Wheelchair Sport



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## KEYWORDS

• Wheelchair sport • Upper limb health • Technology and engineering

## KEY POINTS

- As technology and engineering continue to evolve, athletes and their coaches will be confronted with selecting sports equipment that maximizes performance and safety.
- Wheelchair athletes must be cognizant of their upper limb health because injury can profoundly affect daily function and, ultimately, quality of life.
- Ideally, wheelchair systems designed to promote efficient transfer of energy to the hand/drums should be evaluated for their simultaneous effects on the upper limbs.
- There is enormous opportunity for the development of technologies capable of projecting injury and performance metrics to athletes and coaches.

## INTRODUCTION

Goals of the Paralympics include social equality and promoting inclusion and the attainment of full potential using sport as a vehicle.<sup>1</sup> Wheelchair racing has been a component of Paralympic sport since the original idea was conceived. Furthermore, wheelchair racing has changed the face of adaptive sport. From the early days of racing on cinder tracks or in parking lots, to Bobby Hall completing the first Marathon, to

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