Interactive Tool for Wheelchair Testing
-Wiki

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• Serves as the Clinical and Research Coordinator at the University of Pittsburgh.
• She was born and raised in Ecuador
• BS in Mechatronics Engineering from Universidad de las Fuerzas Armadas-ESPE.
• MS in Rehabilitation Science and Technology at the University of Pittsburgh.
• ISWP as part of the Standards Working group, and the Center for Assistive Technology at UPMC by assisting in final fittings during wheelchair service delivery and smart technologies.
Understand Wheelchair Product standards and ISWP’s activities

Describe the wiki as a product testing resource

Navigate through the wiki

Learn about where to find information about wheelchair testing methods

Learn how to be involved and contribute
• Limited:
  • Public funding
  • Awareness
  • Regulations

• NGOs or Charitable Organizations
  - Wheelchair production
  - Wheelchair donation

→ Lower product quality
An appropriate wheelchair

- User’s needs and environmental conditions
- Safe and durable
- Locally available
- Postural support and proper fit
- Can be maintained, repaired and serviced locally
Pressure ulcers

Postural distortions

[WHO, 2013; WHO, 2015]
Ask!

- What is known about the company that builds and distributes this device?
- How is this device regulated?
- Has this device been tested?
- What’s been published about this device?
- Are there safety concerns?
- How well does this device work?

[Betz, 2017]
Standards

• ISO 7176 – Wheelchairs
• Consensus
• Follow a set of policies, procedures, labelling and reporting

✓ Repeatable
✓ Measurable
✓ Consistent

➢ Safety
➢ Durability
➢ Effectiveness
Static Stability Test

Ammer Consulting

Reddit, 2017
Fatigue and Strength Test

Double drum

Curb-drop

(Gibbonsky et al., 2013)

(MIT, 2019)
Design Considerations for Wheelchairs used in Adverse Conditions

Last Updated: February 2018
Caster Testing
Rolling Resistance Testing

[WHO, 2008; Mhatre, Ott & Pearlman, 2017; Shukla, 2020; Maddock, 2020]
Rolling Resistance Testing

[WHO, 2008; Mhatre, Ott & Pearlman, 2017; Shukla, 2020; Maddock, 2020]
• Many testing methods
• Confusing procedures
• Different approaches across testing labs
Free resource for wheelchair testing methods

Information and documentation to encourage usage of standards

New wheelchair testers and experts

Contribution of experts

wheelchairnetwork.org
Wheelchair Testing

Testing Methods
- Static Stability
- Seating and wheel dimensions
- Rolling Resistance
- Dimensions, mass and manoeuving space
- Caster Testing

Glossary
Frequently Asked Questions

General

✓ How can I contribute?
✓ How do I leave feedback on an article?

Articles

✓ How do I create a new article?
✓ How do I preview the changes on the article I am working on?
✓ I have the final version of my article. How do I publish it?
Articles available at the moment

- Static Stability
- Dimensions, mass and maneuvering space
- Seating and wheel dimensions
- Rolling Resistance
- Caster Testing
Content on articles

• Research literature

• Experts’ and test lab-partners contribution.

• ISWP’s testing documentation
Get involved!

• Rating
• Feedback
• Contact stv24@pitt.edu

Was this article helpful?

😊 Like 😞 Dislike

Please leave your feedback here:

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USAID’s Health Evaluation and Applied Research Development (Heard) Project
What’s next?

• Add more content

• Collaborate with experts and test-lab partners

• Translate content
WIKI

Free resource for best practices documentation for Wheelchair Testing

For

Wheelchair testers, manufacturers, designers...
All stakeholders

Visit

www.wheelchairnetwork.org

Contact

stv24@pitt.edu

Get involved!

USAID's Health Evaluation and Applied Research Development (HEARD) Project
Próximamente: Herramienta interactiva de pruebas de sillas de ruedas – Wiki de ISWP!

Fecha: Por confirmar

Idioma: Español
Questions?