



University of HUDDERSFIELD

University of Huddersfield Repository

Power, Jess

User centred design for medical products

Original Citation

Power, Jess (2017) User centred design for medical products. In: 2nd Skin Integrity & Infection Prevention Conference, 26-27 June 2016, University of Huddersfield. (Unpublished)

This version is available at <http://eprints.hud.ac.uk/id/eprint/32336/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

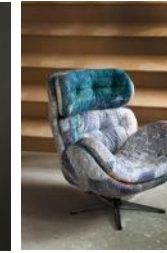
Art Design Architecture Huddersfield

Dr. Jess Power
e.power@hud.ac.uk



User centered design for medical
products

Acknowledgements



Art
Design
Architecture
Huddersfield

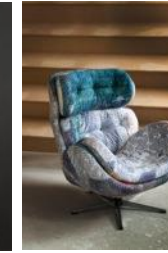
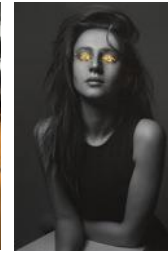
Special thanks to:

- Prof. David Leaper
- Jo Harris
- Little Heroes Cancer Trust
- Helen Turner
- Maureen Jackson
- Melissa Fletcher
- Ruth Clare

The research was originally presented at The Textile Institute World Conference 2016: Textiles inseparable from the human environment, 25-28th April Poznan, Poland, and due acknowledgement should be given to the conference proceedings - ISBN 978-83-928618-5-0.

Power, J., Leaper, D. and Harris, J. (2017) 'Designing functional medical products for children with cancer' International Journal of Fashion Design, Technology and Education . ISSN 1754-3266

Background



Art
Design
Architecture
Huddersfield

- Local charity – real world problem
- Cancer in childhood is rare
- Intensive chemotherapy – central venous catheters (lines)
- Tunneled under skin, external opening on chest

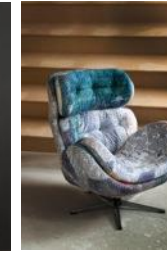
Problem

- Risk of displacement
- Accidental complete removal
- Children may wish to conceal them
- Discomfort during sleep
- lines may dangle

Challenge

Harness to improve well-being of children with cancer

Research Plan



Art
Design
Architecture
Huddersfield

- Interdisciplinary team Dr J Power, Prof D Leaper, J Harris
- Local cancer charity Little Heroes
- Student researcher (teaching/research nexus)

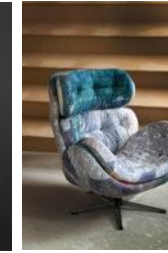
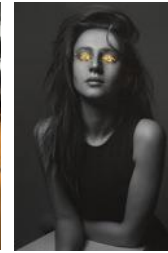
Philosophical Approach - constructive interpretivism

- Balance – academic enquiry and practical application
- Resolve epistemological and methodological differences
- Timeframe – interpretivist approach was adopted

Data collection techniques

- Market research / product research / standards
- Focus group / interviewed medical personnel
- Product analysis
- Synthesized the findings using a QFD

QFD



Art
Design
Architecture
Huddersfield

A method of translating customer needs ⁽¹⁶⁾ into appropriate technical requirements ⁽²⁹⁾

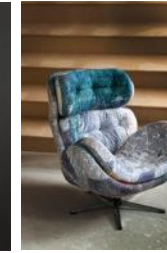
- Parents / carers
- Location of harness (comfort)
 - Design function (functional)
 - Health and Safety (various)
 - Style line (aesthetics)

Comfort wear trial – current products



Priority; Comfort (fit), function, H&S, styleline

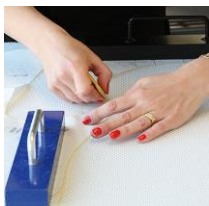
Output



Art
Design
Architecture
Huddersfield

Harness to improve well-being of children with cancer

- Ergonomically designed
- Comfort / functionality/ dignity
- Stylish
- Antibacterial



The harness is now being commercialised under the Tookie brand (<http://www.tookie.co/>)

Any
Questions
?

Project Lead:

Dr. Jess Power

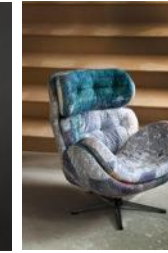
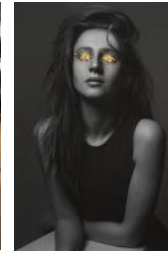
e.power@hud.ac.uk



Special thanks to:

- Prof. David Leaper
- Jo Harris
- Little Heroes Cancer Trust
- Helen Turner
- Maureen Jackson
- Melissa Fletcher
- Ruth Clare

References



Art
Design
Architecture
Huddersfield

- **Cagno, E. and Trucco, P. 2007. Integrated green and quality function deployment. International Journal of Product Lifecycle Management 2(1): 64-83 29**
- **Mauzer, G 1994. QFD for Small Business a short cut through a maze of matrices. 6th Symposium on QFD, Novi, US.1-12.**
- **Shen, X.X., Tan, K.C. & Xie, M. 2000. An integrated approach to innovative product design using Kano's model and QFD. European Journal of Innovation Management. 3(2): 91-99.**