



University of HUDDERSFIELD

University of Huddersfield Repository

Power, Jess, Harris, Joanne and Leaper, David J.

Using QFD As A Method To Develop Functional Medical Products For Children With Cancer.

Original Citation

Power, Jess, Harris, Joanne and Leaper, David J. (2016) Using QFD As A Method To Develop Functional Medical Products For Children With Cancer. In: The 90th Textile Institute World Conference, 25th – 28th April 2016, Poznan, Poland.

This version is available at <http://eprints.hud.ac.uk/id/eprint/28178/>

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/>

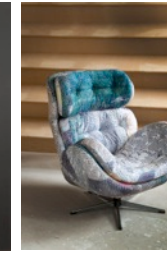
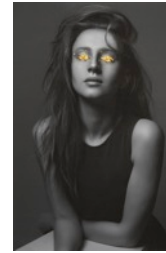
Art Design Architecture Huddersfield

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



Using QFD as a method to develop
functional medical products for
children with cancer

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

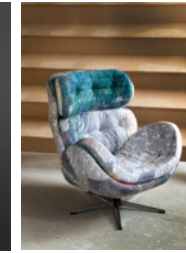
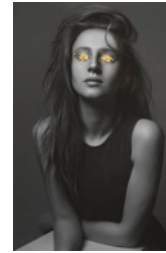
Problem

- 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)

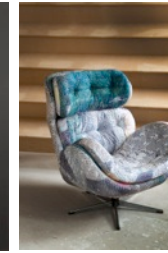
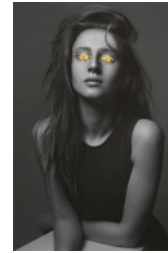
Philosophical Approach - constructive interpretivism

- 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⁾

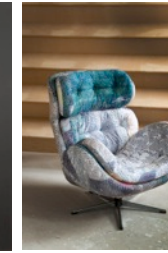
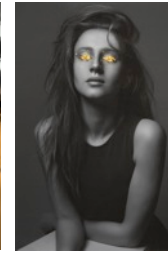
- Parents / carers**
- Location of harness (comfort)
 - Design function (functional)
 - Health and Safety (various)
 - Style line (aesthetics)

Comfort wear trial – current products



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

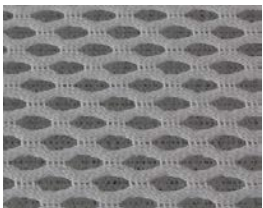
“Wigglebag”



Art
Design
Architecture
Huddersfield

Harness to improve well-being of children with cancer

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



Any
Questions
?



Special thanks to:

- Little Heroes Cancer Trust
- Helen Turner
- Maureen Jackson
- Melissa Fletcher
- Ruth Clare

Project Lead:

Dr. Jess Power

e.power@hud.ac.uk

Co-authors D.Leaper and J.Harris