A DEVICE developed through a collaboration by a team at the University of Huddersfield and a local charity is set to improve the quality of care for child cancer patients. Medical practitioners and a dedicated charity have signalled that they are highly impressed by the design for a special harness that safely and comfortably contains the tubing inserted into the chests of youngsters during treatment.

These tubes are central line catheters - often termed “Hickman Lines”, after the clinician who developed them - that deliver medication, including chemotherapy.  They are vital to treatment but the tubing protruding from the chest can result in problems such as infection and also cause discomfort for the child, particularly during sleep. There is also a tendency for very young patients to chew on the lines and also a strong possibility that parents who sleep with their children can snag the catheters.

Now a team of University of Huddersfield researchers, led by [Dr Jess Power](https://staffmail.hud.ac.uk/owa/redir.aspx?SURL=q_NVthA__N9gaE1XKNqEQMD4JgotJax0bnqBwcYBsNefxAm7MarSCGgAdAB0AHAAcwA6AC8ALwB3AHcAdwAuAGgAdQBkAC4AYQBjAC4AdQBrAC8AbwB1AHIAcwB0AGEAZgBmAC8AcAByAG8AZgBpAGwAZQAvAGkAbgBkAGUAeAAuAHAAaABwAD8AcwB0AGEAZgBmAHUAaQBkAD0AcwBkAGUAcwBlAHAA&URL=https%3a%2f%2fwww.hud.ac.uk%2fourstaff%2fprofile%2findex.php%3fstaffuid%3dsdesep) and including [Professor David Leaper](https://staffmail.hud.ac.uk/owa/redir.aspx?SURL=ssO9cgINI7xqd-4xtTMiJs73SbRYv1iIA1xevIftu5KfxAm7MarSCGgAdAB0AHAAOgAvAC8AdwB3AHcALgBoAHUAZAAuAGEAYwAuAHUAawAvAG8AdQByAHMAdABhAGYAZgAvAHAAcgBvAGYAaQBsAGUALwBpAG4AZABlAHgALgBwAGgAcAA_AHMAdABhAGYAZgBpAGQAPQAxADMAOQA2AA..&URL=http%3a%2f%2fwww.hud.ac.uk%2fourstaff%2fprofile%2findex.php%3fstaffid%3d1396) and [Joanne Marie Harris](https://staffmail.hud.ac.uk/owa/redir.aspx?SURL=YJKtXA9evIOiX_AdaIwo_H2CYcSQgpTU_CqoARhLDyefxAm7MarSCGgAdAB0AHAAcwA6AC8ALwB3AHcAdwAuAGgAdQBkAC4AYQBjAC4AdQBrAC8AbwB1AHIAcwB0AGEAZgBmAC8AcAByAG8AZgBpAGwAZQAvAGkAbgBkAGUAeAAuAHAAaABwAD8AcwB0AGEAZgBmAHUAaQBkAD0AUwBEAEUAUwBKAE0ASAA.&URL=https%3a%2f%2fwww.hud.ac.uk%2fourstaff%2fprofile%2findex.php%3fstaffuid%3dSDESJMH), has designed and developed in collaboration with Little Heroes Cancer Trust a product to contain these external lines, providing greater comfort and safety for the young patient. The result is an attractive and highly functional harness made from an advanced fabric with anti-bacterial properties. The researchers - who conducted focus groups with the parents of young cancer patients – placed a high priority on comfort but also stressed the importance of aesthetics, so that the harness is appealing to patients aged up eight years-old, for whom the product is dubbed a “wiggle bag”.

The project began after an approach from the [Little Heroes Cancer Trust](https://staffmail.hud.ac.uk/owa/redir.aspx?SURL=dqP5nrxhm7_cr4AAdTlZLR5jMPcIR8OugEyKFhpHhgafxAm7MarSCGgAdAB0AHAAOgAvAC8AbABpAHQAdABsAGUAaABlAHIAbwBlAHMALgBvAHIAZwAuAHUAawAvAA..&URL=http%3a%2f%2flittleheroes.org.uk%2f), which recognised the need for a product to contain the catheter tubing. The Trust contributed to research funding, alongside the University’s own [Collaborative Ventures Fund](https://staffmail.hud.ac.uk/owa/redir.aspx?SURL=G4Eu081EwiKzMuEDCs-OCGDKJDlC3sgBqLgYGCwnlVefxAm7MarSCGgAdAB0AHAAOgAvAC8AdwB3AHcALgBoAHUAZAAuAGEAYwAuAHUAawAvAG4AZQB3AHMALwAyADAAMQA0AC8AbgBvAHYAZQBtAGIAZQByAC8AYwBvAGwAbABhAGIAbwByAGEAdABpAHYAZQB2AGUAbgB0AHUAcgBlAHMAZgB1AG4AZAAuAHAAaABwAA..&URL=http%3a%2f%2fwww.hud.ac.uk%2fnews%2f2014%2fnovember%2fcollaborativeventuresfund.php) and the [Yorkshire Innovation Fund](https://staffmail.hud.ac.uk/owa/redir.aspx?SURL=K_TgUjLcCRo8pyOC2NlemBrxK9jSiAT6_6T2bVyePW-fxAm7MarSCGgAdAB0AHAAOgAvAC8AdwB3AHcALgB5AG8AcgBrAHMAaABpAHIAZQBpAG4AbgBvAHYAYQB0AGkAbwBuAGYAdQBuAGQALgBvAHIAZwAvAA..&URL=http%3a%2f%2fwww.yorkshireinnovationfund.org%2f).

Now prototypes have been produced at the University and the harness has met with the enthusiastic approval of Little Heroes, which is seeking to patent the device. A consultant paediatrician and a senior nurse at the Royal Liverpool Hospital have also appraised the harness and provided positive feedback.

“They were pleased that we realised we were not designing a medical device, but something for comfort, functionality and good aesthetics that would enable the patients to have dignity” said Dr Power.

Little Heroes has been provided with six prototype harnesses and the next stage is to carry out testing to double check that the device meets a range of British and Internationals standards, so that it can go into commercial production. Dr Power said that she was delighted with the outcome of the project. “It is a fantastic result because the product really does benchmark three important things – comfort, functionality and aesthetics.”

Dr Power - a textile researcher who is Director of Teaching and Learning for the School of Art, Design and Architecture - and Prof Leaper – a surgeon who is Professor of Clinical Sciences – are members of the University of Huddersfield’s inter-disciplinary [Institute of Skin Integrity and Infection Prevention.  The third core member of the team behind the new harness, Jo Harris, is course leader of for Surface Design for Fashion and Interiors.](https://staffmail.hud.ac.uk/owa/redir.aspx?SURL=Eoqdcx2d3eFK8EFQYJn_3GQwh-PPFoOh0Gtq-B6KKyafxAm7MarSCGgAdAB0AHAAOgAvAC8AdwB3AHcALgBoAHUAZAAuAGEAYwAuAHUAawAvAHIAZQBzAGUAYQByAGMAaAAvAHIAZQBzAGUAYQByAGMAaABjAGUAbgB0AHIAZQBzAC8AaQBzAGkAYQBpAHAALwBtAGUAbQBiAGUAcgBzAC8AcAByAG8AZgBlAHMAcwBvAHIAawBhAHIAZQBuAC0AbABlAGkAZwBoAGUAZAB3AGEAcgBkAC4AcABoAHAA&URL=http%3a%2f%2fwww.hud.ac.uk%2fresearch%2fresearchcentres%2fisiaip%2fmembers%2fprofessorkaren-leighedward.php)