Advanced methods for In Situ Generation of Lubricious Catheters

Published date: Dec. 14, 2017

Technology description

For patients with urinary incontinence or retention, intermittent self-catherisation (ISC) provides an effective means of bladder management. ISC involves the temporary insertion of the catheter to the bladder which is then removed when the bladder is empty. In light of the associated user independence and the lower risk of infection, ISC is often preferable to an indwelling catheter.
The global market is vast with more than 600 million ISC devices sold each year, with approximately 26,000 users in the UK and 300,000 in the USA. The insertion and removal of a catheter can result in pain, mechanical injury, inflammation and bleeding. The disruption inflicted by a catheter can elicit a negative and uncomfortable experience for the patient. Furthermore, the local trauma can manifest in conditions such as urethritis and cystitis, which can be difficult to treat.
Consequently, a catheter device with adequate lubrication to address this deleterious problem is warranted. To introduce sufficient slippery liquid onto the catheter surface an innovative system is being developed by QUB. This permits the design of a device which is generated in situ during manufacture. Advanced extrusion technologies are applied to manufacture the catheter and the materials used are biocompatible, non-toxic and safe for use, whilst ensuring adequate mechanical integrity fit for purpose. The technology introduces a unique solution to addressing the shortcomings of other coated devices. There is no coating required for the catheter. Wetting of the catheter is not required before use, in turn streamlining the catherisation process. Such a device, would improve user satisfaction, limit the risk of negative complications and reduce the likelihood of treatment on a strained NHS budget. Furthermore, the patient’ s dignity would be maintained.

Institution

The Queen's University of Belfast

Inventors

Gavin Andrews
Academic
David Jones
Academic

Shu Li

Research

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com