

PPH Butterfly: A novel device to manage postpartum haemorrhage

Professor Andrew Weeks, Faculty of Health and Life Sciences

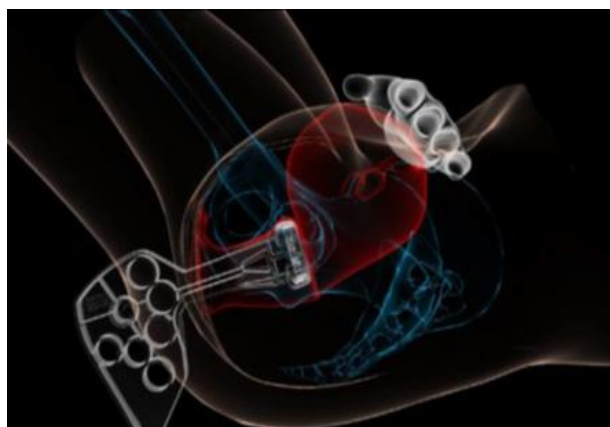
A Global Challenge: Postpartum Haemorrhage (PPH)

Postpartum haemorrhage (PPH) is a severe, life-threatening complication that occurs after childbirth. It is characterized by excessive bleeding, typically defined as a blood loss of 500 mL or more within 24 hours after vaginal delivery or caesarean section.¹ PPH can result from various factors, including uterine atony (failure of the uterus to contract), placental abnormalities, trauma, or coagulation disorders.

Despite advances in maternal healthcare, PPH remains a leading cause of maternal mortality worldwide. It is a critical issue, especially in low-resource settings where access to quality healthcare may be limited. New interventions for assessing and treating PPH are urgently needed² to reduce its impact, improve maternal recovery and save many lives worldwide.

Our Solution: The PPH Butterfly

The PPH Butterfly is a simple, low-cost device that has been developed by Professor Andrew Weeks, a clinical champion in the field of maternal health. The device was developed in collaboration with the engineering team at the Royal Liverpool University Hospital.³



The PPH Butterfly makes bimanual compression of the uterus simple and non-invasive This

innovation is a slim, folding piece of polypropylene that is inserted into the birth canal if bleeding starts. It then unfolds and provides a platform against which the uterus can be squeezed by a hand on the abdomen.

Key Benefits

- **Proven user/patient compliance:** Simple, low cost, less invasive compression device.
- **Precise Assessment:** Empowers clinicians to pinpoint the source of bleeding, a critical step in effective PPH management.
- **Reducing the need for medications:** Acts swiftly to prevent critical blood loss, can be used in early stages, minimising the need for medicines and advanced diagnostic skills.
- **Practicality and consistency:** Enable clinicians to maintain constant pressure on the uterus, preventing fatigue and facilitating teamwork.

Intellectual property

The device and its application for the treatment of postpartum haemorrhage (PPH) are protected by granted patents in the United States (US11278321B2) and Europe (EP3116418B1).

Project status and next steps

Recent phase II testing in women with PPH shows the device to be safe with high levels of acceptability for both clinicians and participants.

We are now looking for potential partners to support the next phase of product development and progress the device to market.

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¹ Weeks A, Neilson JP. Rethinking our approach to postpartum haemorrhage and uterotonics. BMJ 2015 Jul 8;351:h3251.

² WHO. A Roadmap to combat postpartum haemorrhage between 2023 and 2030. Geneva: World Health Organization; 2023.

³ Cunningham et al. The PPH Butterfly: a novel device to treat postpartum haemorrhage through uterine compression. BMJ Innovations 2017;3:45–54.

⁴ Weeks et al. A mixed method, phase 2 clinical evaluation of a novel device to treat postpartum haemorrhage. Eur J Obstet Gynecol Reprod Biol. 2023;283:142.