Prof. James E. Moore Jr. Department of Bioengineering Imperial College London



A post-cancer care company

## Lymphoedema is a life-changing and incurable condition with an unmet need for its prevention

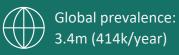
20% of breast cancer patients undergoing treatment develop breast cancer related lymphoedema (BCRL): incurable and debilitating swelling of the arm.

Current BCRL therapies show poor outcomes due to: Short surgical follow-up Life-long and costly treatment Misdiagnosis Low BCRL awareness

BCRL prevention overcomes these limits and offers patients an improved quality of life, yet remains inaccessible.



### **BCRL Patient Facts:**









Mental Health

### BCRL PERSPECTIVES

**BCRL Patients** Patients are unhappy with their care pathway and suffer a poor quality of life



"My BCRL is painful and a constant reminder of my breast cancer. It forced me into early retirement."



"Why is nothing being done about BCRL?"



"Even though I'm still suffering, my treatment has been reduced because of healthcare budget cuts"



"My son feels sick when I use my lymphoedema pump, it's a reminder to him that his mum had breast cancer"

### Patient Support Groups

Carers and clinicians are demanding new solutions which better address patients' needs



"For every £1 spent on preventing lymphoedema damage, society saves £100 in reduced hospital admissions"



"We need new strategies to tackle BCRL, and prevention is an absolute top priority"

**Surgeons** Surgeons often have a low awareness of BCRL or do not catch BCRL due to poor follow-up



"BCRL cases are going down due to early diagnoses and changes in surgical techniques"



"No, large groups of breast cancer patients still face high risks of an extremely debilitating condition."

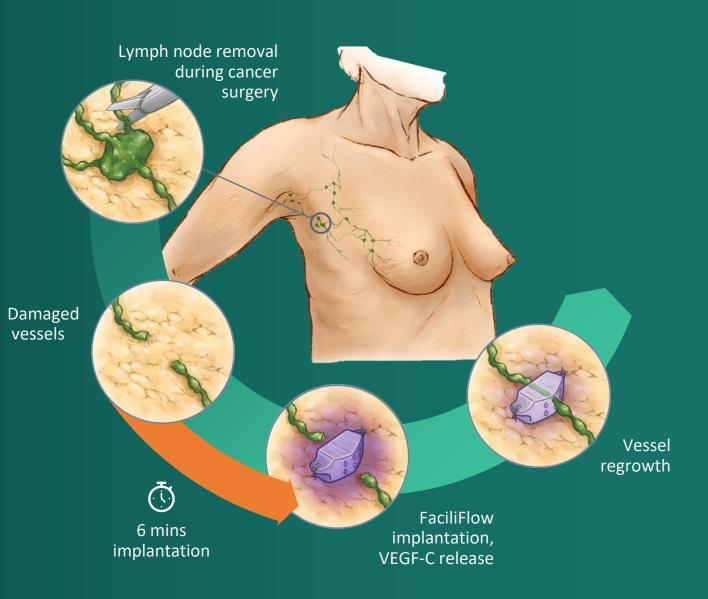
## A Preventative Device: *FaciliFlow* UNDERLYING PRINCIPLE

# Dual therapeutic mode of action

FaciliFlow's patented biomimicry design combines regenerative medicine and biofluid mechanics.

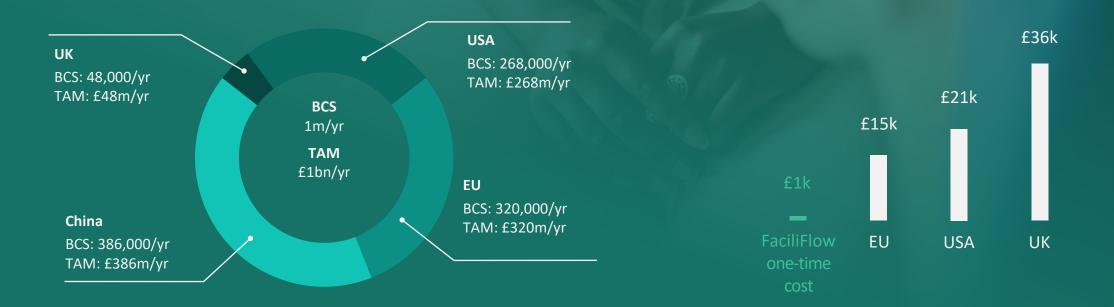
FaciliFlow releases a dose of VEGF-C to stimulate sprouting of lymphatic vessels. Bioactive levels of VEGF-C are localized to within 2 cm of FaciliFlow to inhibit off-target growth factor delivery.

FaciliFlow also maintains fluid flow and directs lymphatic vessel regrowth.



## MARKET ANALYSIS

Total addressable market (TAM) for BCRL prevention during breast cancer surgeries (BCS) in 4 major markets Average 5-year BCRL standard care cost per patient vs FaciliFlow unit cost FaciliFlow estimated manufacturing cost: £4



## FaciliFlow Funding Applications Reviewer comments

...the severity of the condition is often quite mild.

...with the advent of Sentinel Node Biopsy surgery, less than 25% cancer patients get an Ax Node Clearance. Of those undergoing clearance surgery around 22% get any lymphoedema most of which is mild and may be asymptomatic. Around 5% of patients undergoing initial Axillary Surgery develop moderate or severe lymphoedema which amounts to around potentially 500 patients per year in the NHS.

The maths: The NHS website says there are 200,000 patients with lymphoedema. So at the rate of 500 patients per year that's 400 years of accumulating patients, with no deaths.

### THE TEAM

Prof. James E. Moore Jr. Inventor and PI

Leader in lymphatics research. Multiple patents and startups.

### Dr. Kate Rowley CEO

25 years of life science experience. On 7 biotech company boards.







Dr. Arushri Swarup R&D Engineer

Expertise in surgical instrument design and fabrication.

Mr. Alain Vella R&D Engineer

Medical device R&D experience at multinational healthcare company.

Mr. Paul Thiruchelvam Consultant Breast Surgeon Actively involved in BCRL prevention and surveillance.

### PPI Group

BCRL patients providing insights through their experiences in the BCRL care pathway. Please take a few minutes (not now) to view these videos on lymphoedema awareness and importance of co-production





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