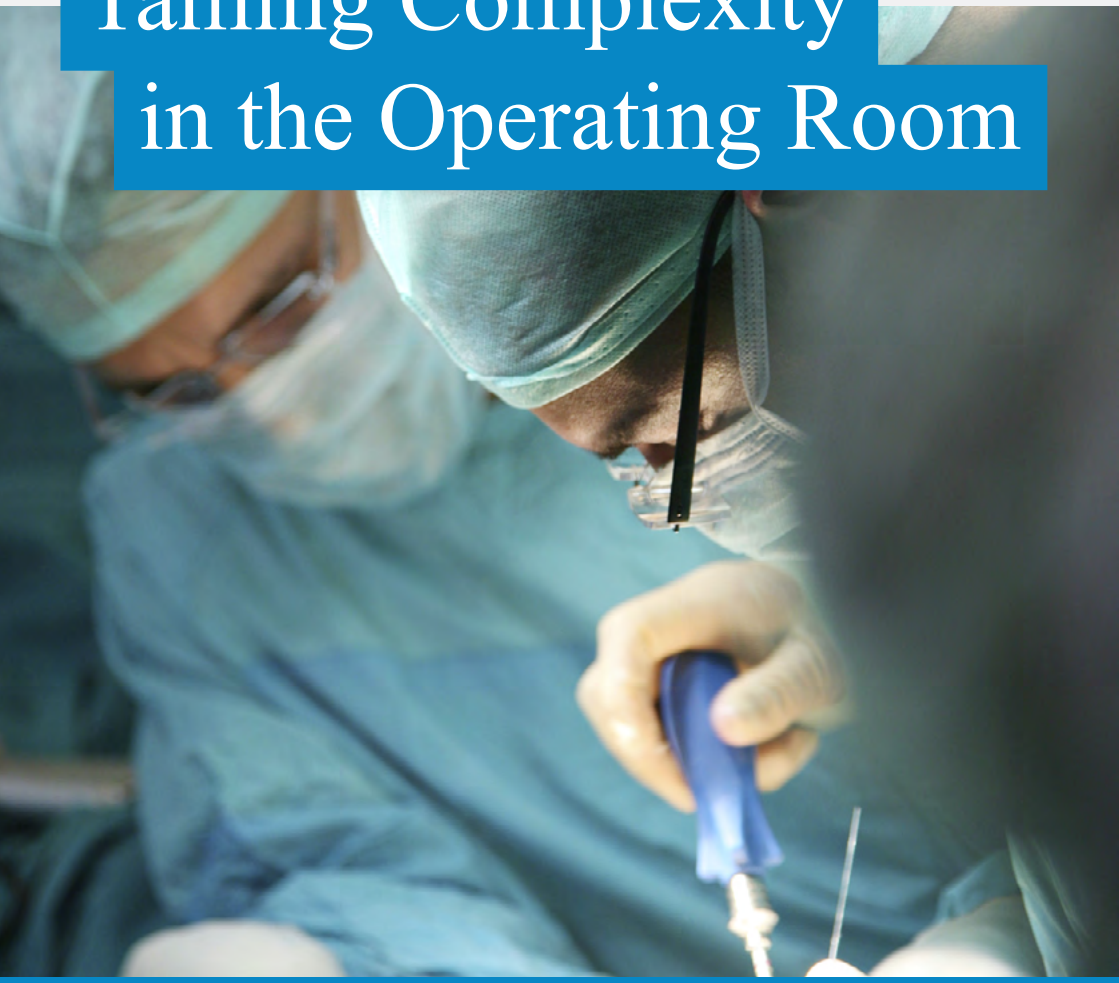
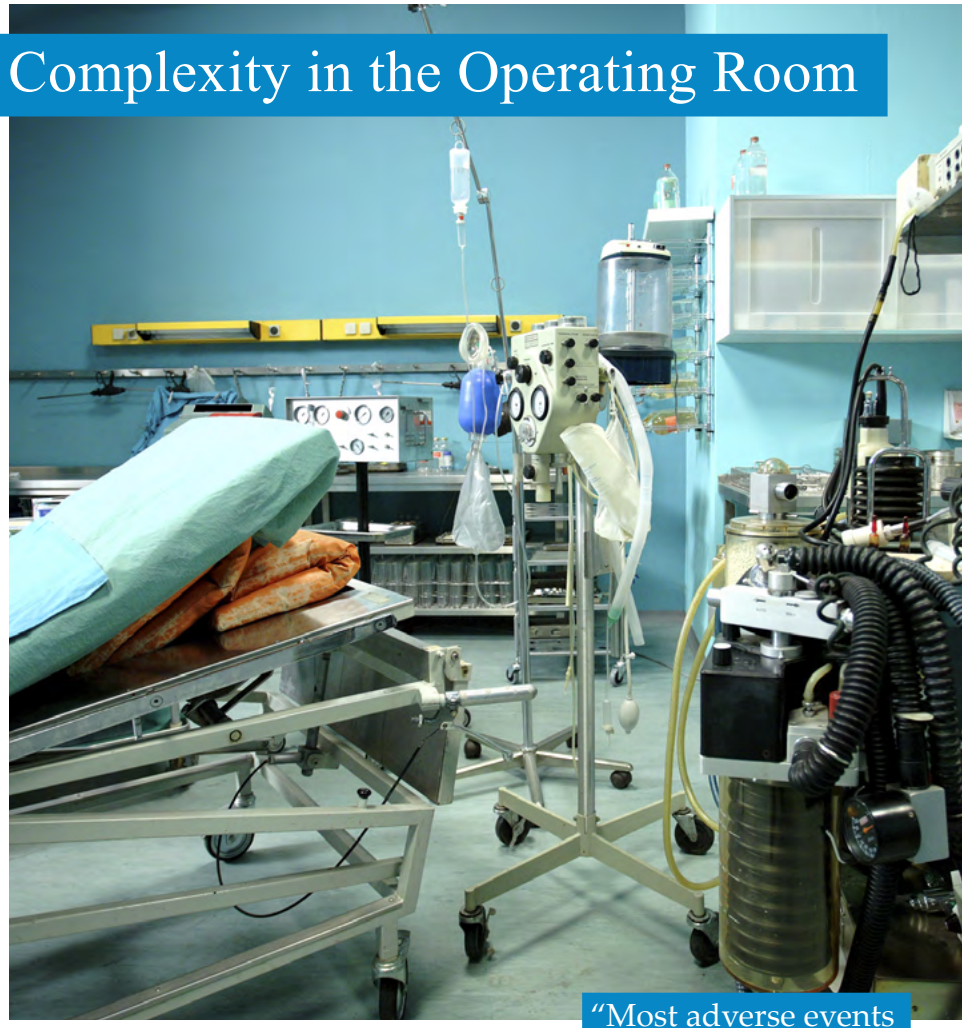
Taming Complexity in the Operating Room



Medical & Healthcare

pdd | Product and Service Design Innovation Consultancy

Complexity in the Operating Room



Technical and scientific advances have transformed surgery over the past 50 years. New procedures, tools and systems have enhanced clinical outcomes but at the same time increased complexity in the Operating Room (OR).

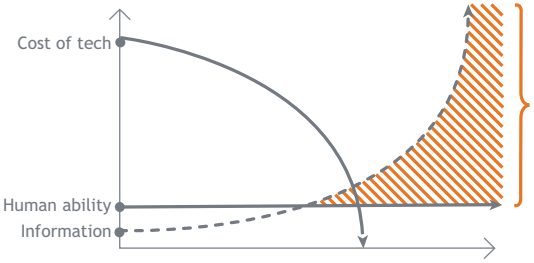
As a result, cognitive load on surgeons and their teams has increased. The risk of use errors and adverse events impacting patient safety is more prevalent, coming under increased scrutiny by international regulators.

> "Most adverse events occurring when using medical electrical equipment are primarily due to use error."
>
> *Source: Institute of Medicine, To Err is Human*

Human-Centred Design

Human-Centred Design (HCD) is an approach that focuses on the needs, desires and context of the people for whom we design. Enabled by a set of tools, it helps to create solutions that reconcile human capability with the information overload present in the OR.

Taming Complexity



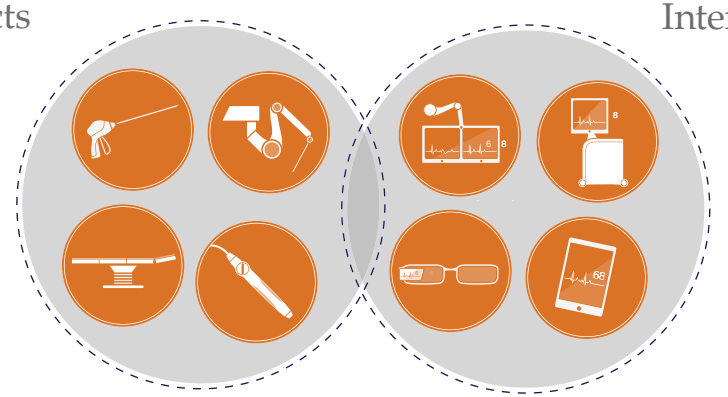
As the cost of technology has plummeted, the amount of information in the world has exploded. Meanwhile human ability to cope with this increase is limited.

Our goal is to close this gap by matching complex information systems to the way people think.

Increasingly, surgeons and the OR team must interact with a variety of **physical products** and **digital interfaces** to complete a procedure. HCD can help to create products that are both usable and desirable, leading to improved safety for staff and patients, as well as a more memorable user experience.

Physical Products

Digital Interfaces



Benefits

Human-Centred Design brings a range of commercial and clinical benefits.

Increase market share

By capturing and validating stakeholder needs throughout the development process, superior solutions are achieved that frequently lead to a market share increase.

Reduce use errors

A deep understanding of the environment and users' cognitive capabilities creates highly usable products and services.

New revenue streams

Product and service innovation can create new revenue streams, thus increasing revenue per customer.

Collaborative approach

Human-Centred Design fosters team work and interdisciplinary collaboration which often leads to new and surprising outcomes.

"Human-Centred Design is a powerful approach to tame the complexity typically found in the Operating Room today"

Fabien Schmitt, PDD



Case study: Portfolio of new system concepts for medtech leader

Context

PDD partnered with a global medtech company to help strengthen its position as an innovation leader within an increasingly price competitive environment.

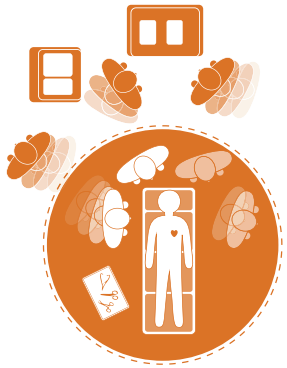
Approach

Using a range of Human-Centred Design techniques, PDD gained insights into usability challenges of the client's products.

Outcome

PDD proposed and developed a series of solutions integrating physical products and digital interfaces that benefit from:

- Higher usability through reduced cognitive burden
- Shorter overall procedure time



Workflow schematics support procedure breakdown and task analysis.

About

With headquarters in London and studios in Europe, North America and Asia, PDD is a global product and service design innovation consultancy with over thirty years experience in developing products across sectors.

Our Medical & Healthcare team partner with companies ranging from leading multinationals to fast-moving start-ups to create solutions that help them grow.

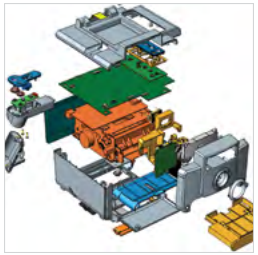


Capabilities

PDD is ISO 13485 certified with in-house expertise in:







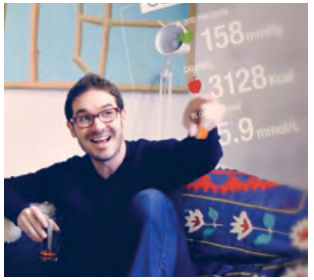


- People-Centred Research
- Technology & Invention
- Intellectual Property Management
- Design Strategy
- Usability Engineering
- Engineering Design & Analysis
- Industrial Design
- Electronics & Software
- Risk Management
- Prototype & Verification
- Packaging & IFU Design
- Production Outsourcing

Work

PDD operates across a wide range of medical market segments including surgical, pharma, in vitro diagnostics, monitoring, ambulatory care, wound care and connected health.











Our Clients

MERCK SERONO

DePuy a Johnson & Johnson company

Unomedical

OLYMPUS

novo nordisk®

SIEMENS

Baxter

BOC

Contact

To learn more about PDD and how Human-Centred Design is applied to create better solutions for the Operating Room, please contact Fabien Schmitt.

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www.pdd.co.uk/medical



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