Delivery Technologies for Diversified Products II

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Poster number **964**

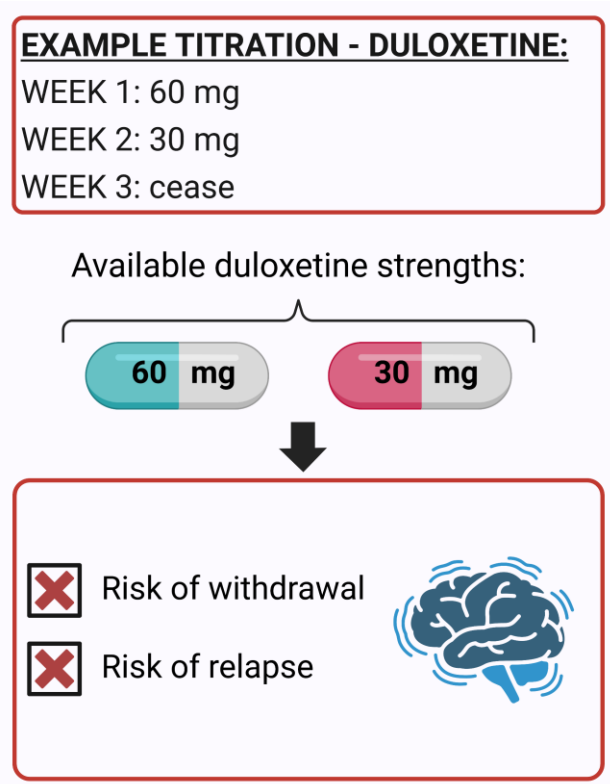
CONTROLLED RELEASE SOCIETY
CRS 2024 Annual Meeting AND Exposition
JULY 8-12, 2024 • BOLOGNA, ITALY

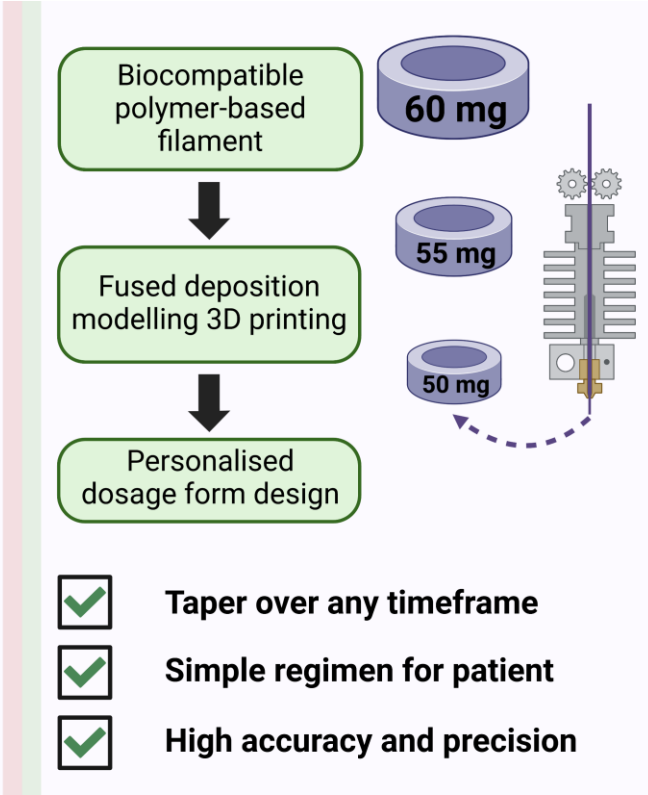
INTEGRATING
Delivery Science
ACROSS DISCIPLINES

3D printing vs traditional pharmaceuticals

- At best, tapering antidepressants is inconvenient and inaccurate – at worst, it can be impossible

- With 3D printing: taper by any increment over any timeframe





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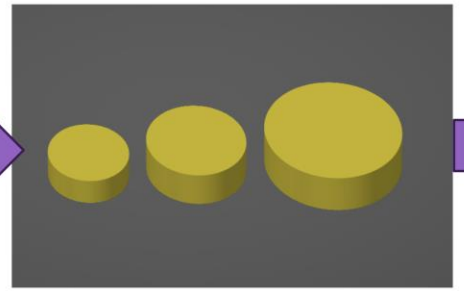
From start to finish

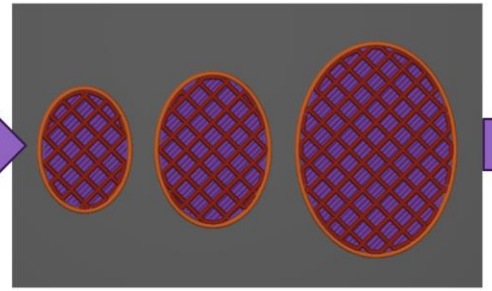
HOT MELT EXTRUSION

PVA
85% Starch
Glycerol

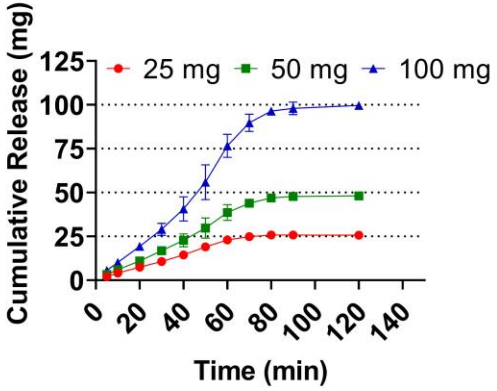
15% Caffeine

FUSED DEPOSITION MODELLING 3D PRINTING

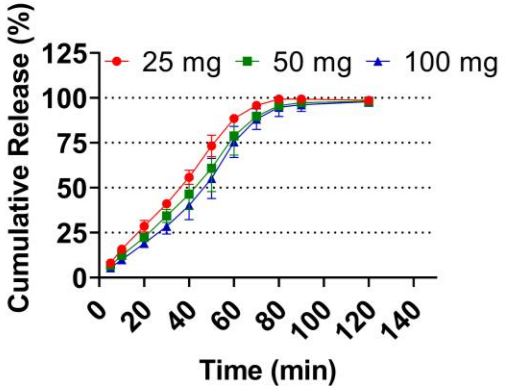




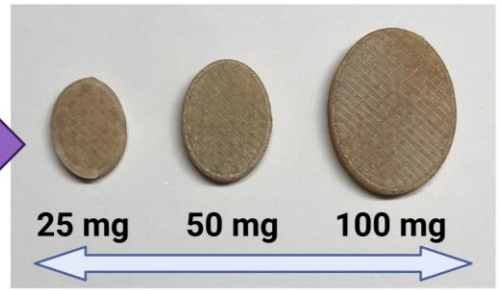
TABLET SIZE = DOSE



GEOMETRY = RELEASE PROFILE



CHARACTERISATION



PERSONALISED DOSE TITRATION

- ✔ **Weight uniformity**
- ✔ **Dissolution**
- ✔ **Drug content**
- ✔ **Friability**
- ✔ **Hardness**

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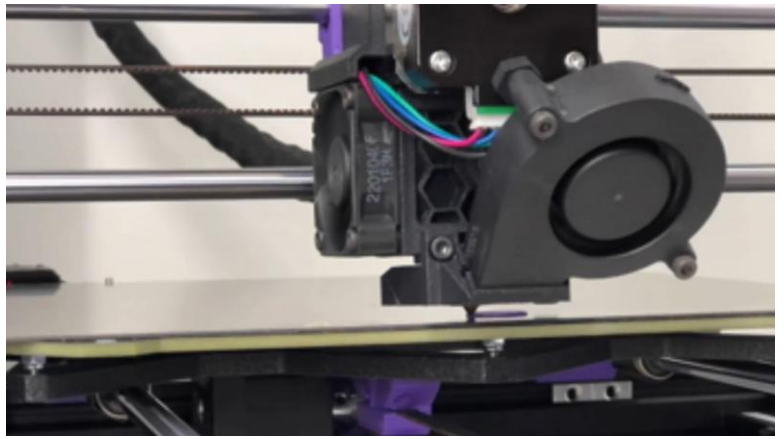
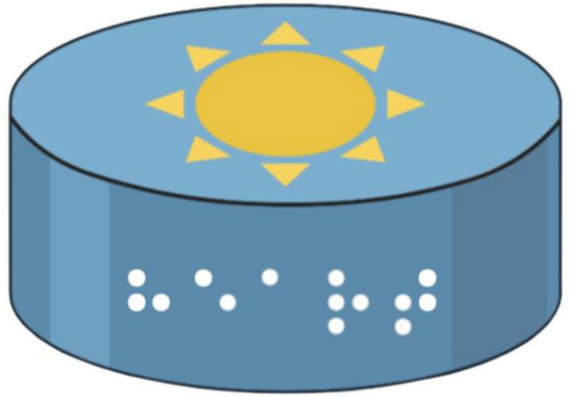
Future outlooks for clinical translation

- Polypills, functional aesthetics, custom release profiles, and more



- **Multiple drugs**
- **Individual doses**
- **Customisable release profiles**

- Collaboration with regulatory bodies and further refinements to quality control are crucial for translation



- **Colour & flavour**
- **Texture**
- **Braille**
- **Symbols**
- **Shape & size**

Thank you

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