

DEC Healthcare

Enabling our Partners in Highly Potent API Delivery

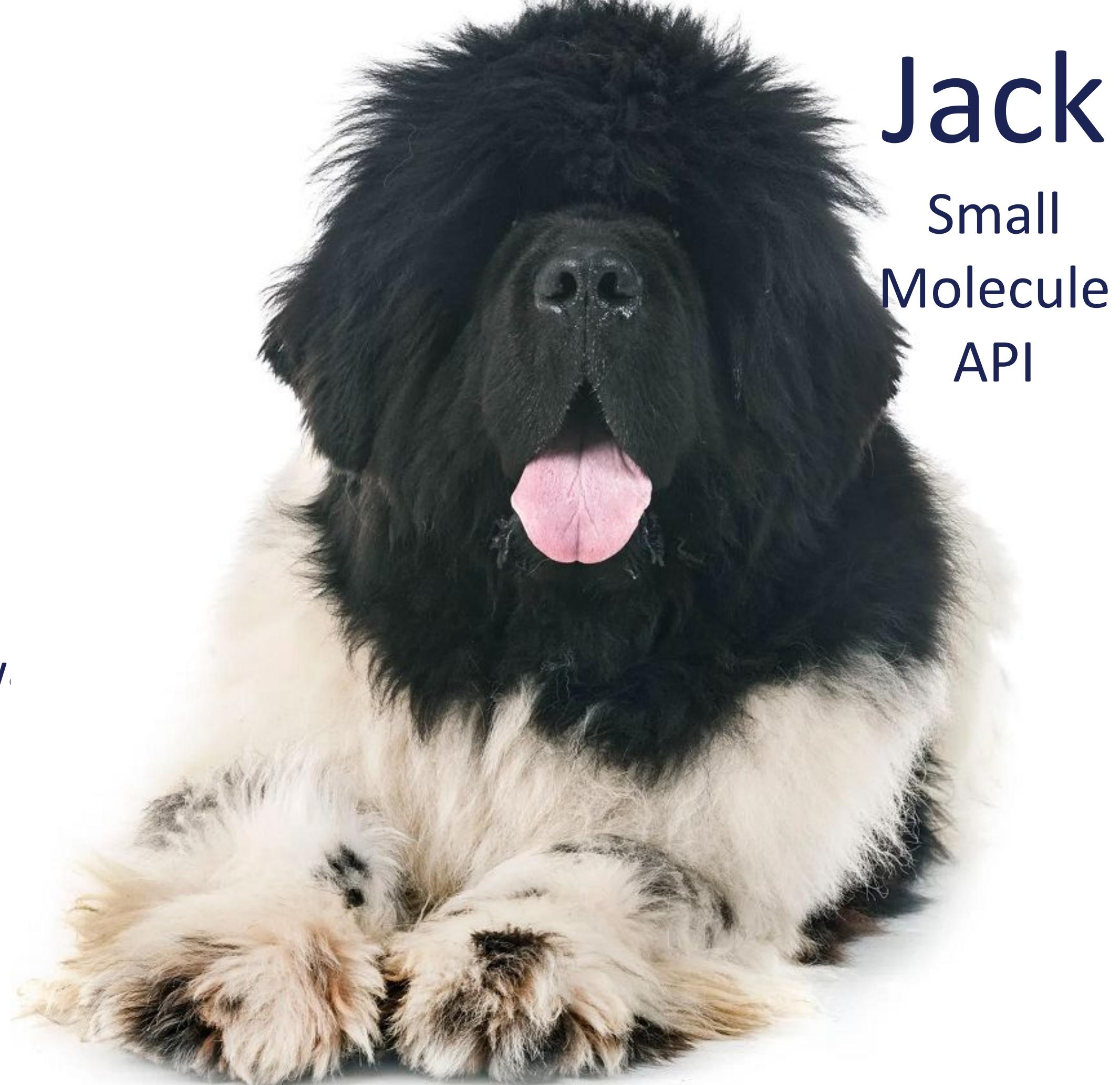
Dr. Nick Gaddum, CSO



Make.
Make Perfect.
Repeat.

Old Dogs

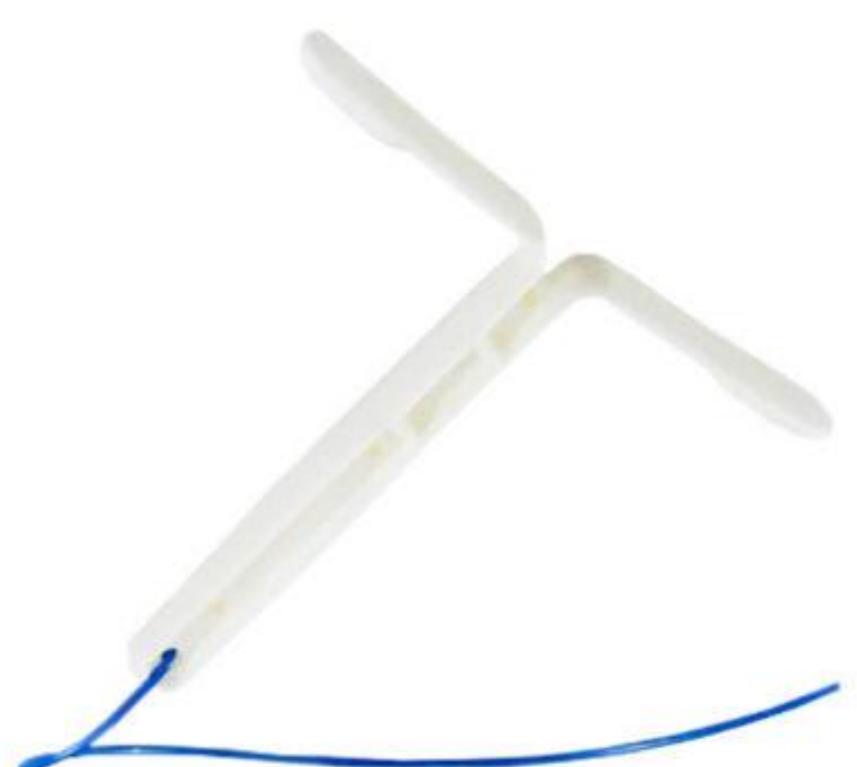
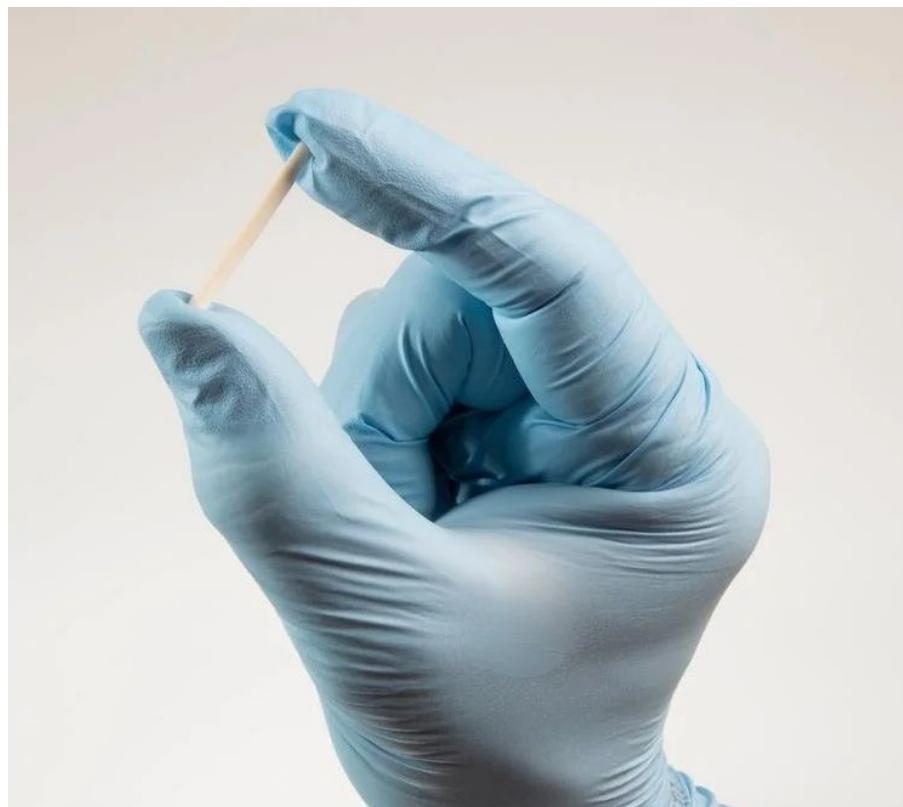
- Amazing small molecule APIs
 - Pain relief
 - Cancer therapy
 - Antibiotics
 - Hormone therapy
 - etc.
- Oral tablet/injected bolus; mins to hours
- If APIs were dogs, these pets could only w...
- CRS
 - Extending release profile, to control drug concentrations in the body
- Challenge
 - Can you teach old dogs new tricks?



Jack
Small
Molecule
API

Polymeric drug delivery devices

- APIs and polymers/excipients compounded to form composites
- Moulded or extruded into devices
- Opportunities
 - Low cost
 - Highly scalable
 - Small molecule APIs



R&D Manufacture

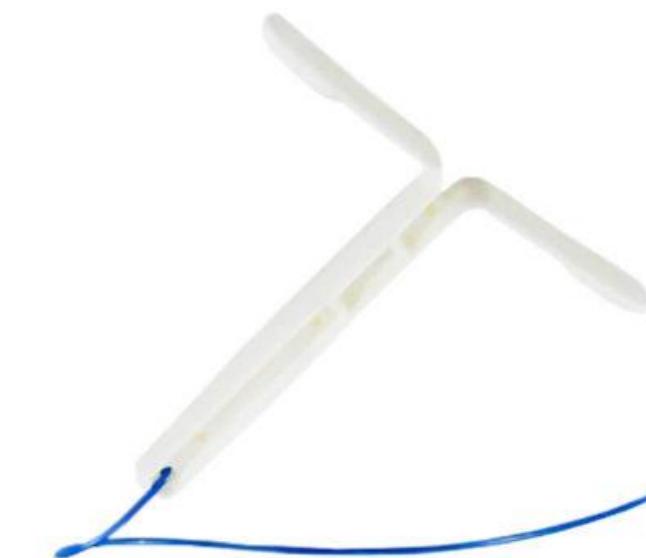
Raw Materials



Processing



Product



GMP Manufacture

Batch Records



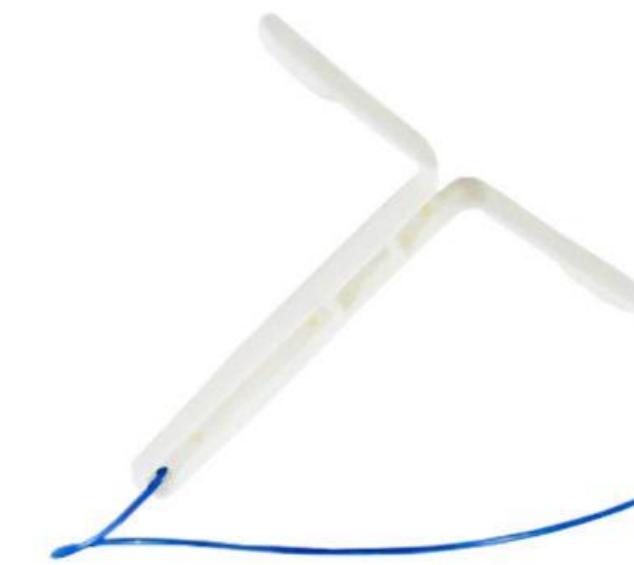
Raw Materials



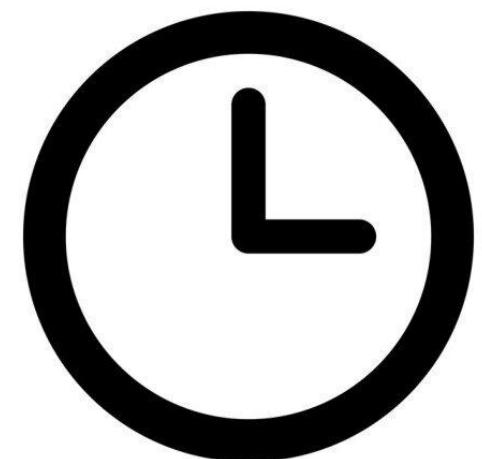
Processing



Product



Stability



Raw Materials QC



In-Process QC



Product QC



Stability QC



GMP Prepared

Development; Quality by Design

Qualification and Validation

GMP Compliant Manufacture

Batch Records



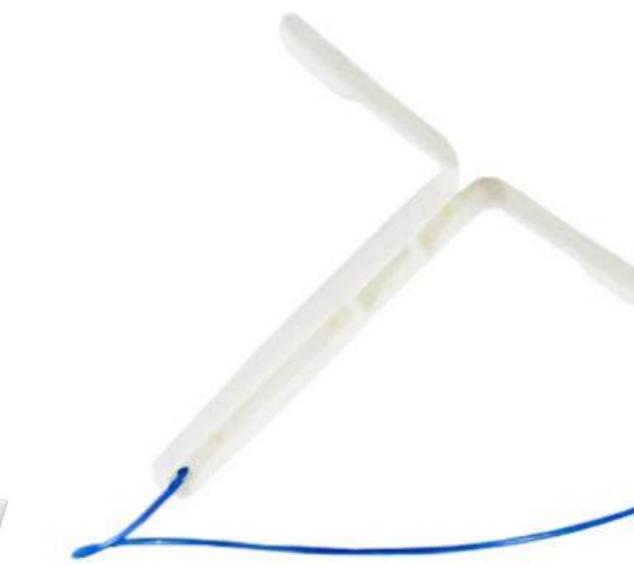
Raw Materials



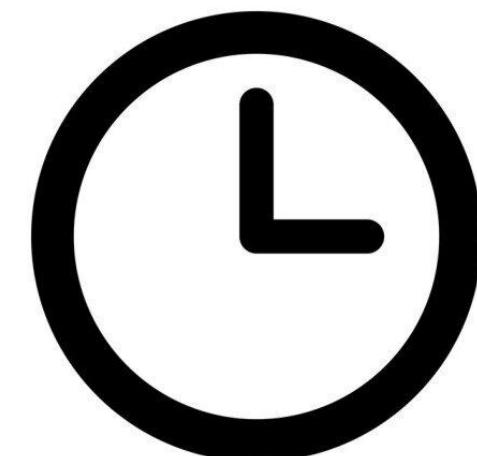
Processing



Product



Stability



Raw Materials QC



In-Process QC



Product QC



Stability QC

Enabling

Development Timeline

R&D

GMP, Clinical Development

Commercial Supply

- Proof of Concept
- In vitro/vivo
- IP
- Prototype

- Impact
- Patients
- Shareholders
- Market



DEC

DEC



Why DEC?



Make.
Make Perfect.
Repeat.

1. End-to-End Support

Product Development

- Prototyping
- Design for Manufacture
- Tooling



Your Product

Quality

- Protocols/SOPs
- Qualification
- Validation
- Manufacturing Batch Record

Analytical Development

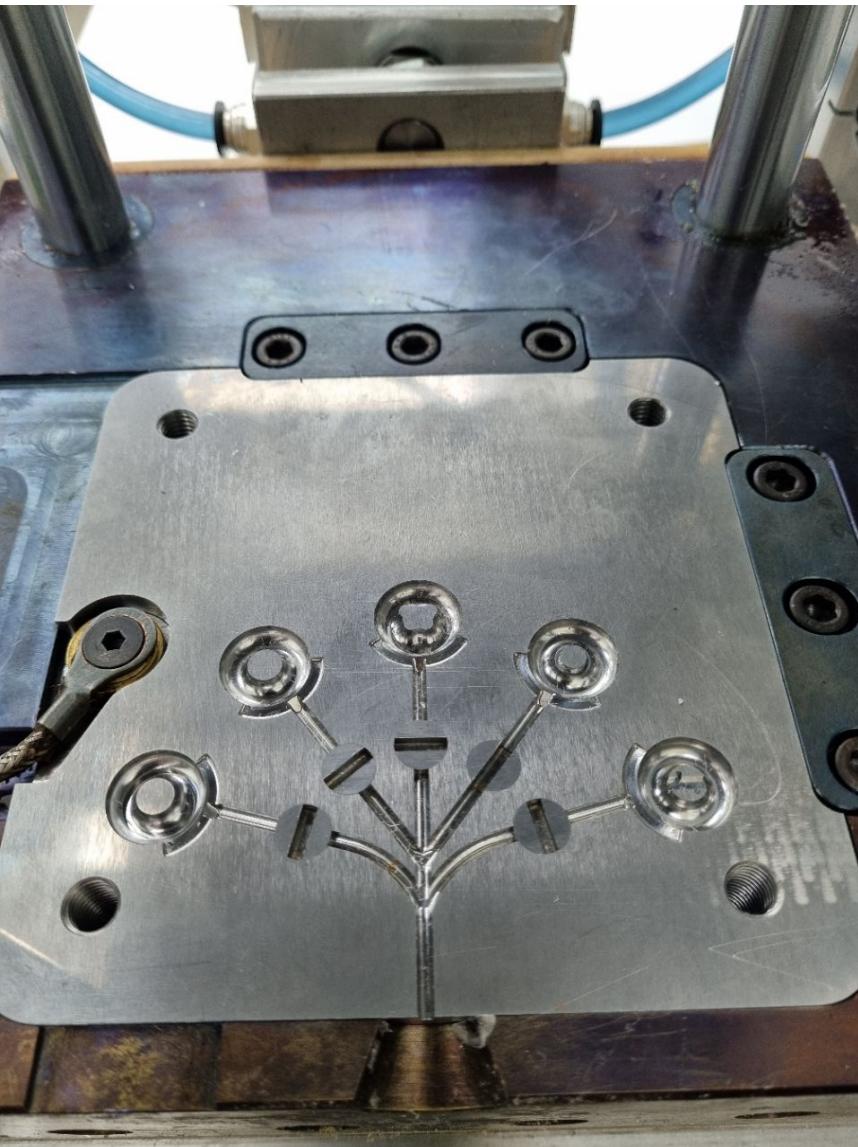
- Method development
- Raw material measurement
- In-process monitoring
- Final product testing

Process Development

- Raw material pre-processing
- Moulding process
- Extrusion process
- Packaging

2. Scale

R&D



Prototyping

Tech Transfer



Sm. Scale, Clinical trials,
Registrations

Production



Cost driven, Scalable
Manufacture

3. Highly Potent APIs



High potent APIs

- Progestins
- Estrogens
- GnRH
- etc.

DEC Business as Usual

- >10t of hormone into implants p/a
- 10m implants to 56 countries

Specialised Facilities

- Laminar Flow Suites
- Environmental monitoring

Summary

- Drug delivery
 - Development and GMP manufacture of moulded and extruded devices
- Why DEC?
 - End-to-end support
 - Scale
 - Infrastructure for highly potent APIs
- And of course

**Enabling our Partners
...to Teach
Old Dogs New Tricks**

