



CASE STUDY

Proving Pharynx Formulation Equivalence with Clinically Relevant Models

Developing predictive models to compare
drug delivery across dosage forms

The Challenge

Reckitt Benckiser sought to understand how effectively two flurbiprofen formulations, a throat spray and a lozenge, delivered drug to human pharynx tissue.

Traditional testing methods offered limited insight into drug delivery at the site of action, making it difficult to compare performance between different dosage forms.

Approach

MedPharm developed clinically relevant in vitro and ex vivo models to evaluate drug permeation into pharynx tissue:

- Designed and built models to replicate human pharynx conditions
- Utilized ex vivo porcine pharynx tissue for model development
- Conducted final validation using human cadaver pharynx tissue
- Performed comparative permeation studies across both formulations
- Measured drug delivery into target tissue to assess equivalence
- Generated data to support clinically relevant dose estimation

Outcome

- Demonstrated equivalent flurbiprofen permeation for spray and lozenge formulations
- Established a clinically relevant dose for the product
- Provided data to support formulation equivalence
- Enabled confident comparison between different delivery formats
- Results presented at the 3rd German Pharm-Tox Summit (2018)
- Supported education of key opinion leaders on formulation performance

Why This Matters

Understanding drug delivery at the site of action is critical for comparing formulations and supporting product claims. By developing clinically relevant pharynx models, MedPharm enables more accurate assessment of drug performance and supports confident decision-making.