



CASE STUDY

Enhancing Topical and Transdermal Delivery with MedSpray®

Using film-forming technology to improve drug permeation, retention, and patient experience

The Challenge

Traditional topical and transdermal delivery systems, including patches, gels, and creams, can be limited by poor drug permeation, low retention, and patient usability challenges.

Many systems also struggle to balance drug loading with effective delivery, while maintaining regulatory compliance and patient-friendly formats.

Approach

MedPharm applied its MedSpray® platform technology, an aerosol-based, film-forming system designed to optimize drug delivery:

- Delivered API as a “patch-in-a-can” applied directly to the skin or tissue surface
- Created a microfine film upon application, forming a flexible gel-film with strong adhesion and retention
- Used thermodynamically optimized formulations to increase drug concentration during solvent evaporation
- Maintained near-saturated drug conditions to enhance permeation into and through tissue
- Utilized only FDA/EMA IID-approved excipients and safe propellants
- Enabled customizable formulation design to control release profile and performance

Outcome

- Improved drug permeation and penetration into tissue
- Enhanced retention and non-transferable film formation
- Enabled both immediate and sustained release profiles
- Reduced need for high drug loading through improved delivery efficiency
- Provided a patient-friendly, easy-to-apply dosage form
- Created opportunities for IP generation through formulation customization

Why This Matters

MedSpray® transforms how topical and transdermal drugs are delivered. By combining formulation science with a patient-friendly format, it enables improved performance, better compliance, and stronger product differentiation.