
63 Percutaneous Penetration in Humans

Transfer of Chemicals via Skin-to-Skin Contact

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63.1 INTRODUCTION

Various drugs are applied topically as medications, some of which can produce serious adverse effects. Patients receiving these medications are often aware of these effects based on advice of the prescribing physician and pharmacist. Prior to prescribing the medication, the physician would have weighed the benefits of the medication versus the risk of adverse effects. However, the same is not true for persons who come in skin contact with the patient and their applied medication. It has become increasingly apparent that family, friends, and others in physical contact with the patient could be placed at a similar risk to the patient if proper precautions are not in place to prevent medication transfer.

The basis of the transfer of transdermal medication lies in its initial absorption. Typically, transdermal medication is incompletely absorbed; much medication remains on the skin for hours or even days after application, as shown in studies examining estrogen and testosterone gels [1, 2]. While the average patient may be cognizant of residual medication on the application site immediately post-application, the patient may not be aware that transfer potential does not rapidly cease. Residual medication will largely remain on the skin until absorbed, washed, or rubbed against another object; thus, there is a possibility that the medication can be transferred long past application [1]. Contact between the patient and his or her family members and friends can then pose a risk to their health even when the thought of the medication application is far removed from the patient's