

**Appendix 1**

**Vehicles:** *The vehicle makes up 95 to 99.9% of a topical medication. The main vehicles are ointments, creams, lotions, gels, and pastes. It is important to choose the correct vehicle.*

1. *An Ointment (water in oil emulsions) allows the best penetration of the active ingredient and is best for dry, sensitive skin, and especially for thick plaques. They are also most effective for disease on thick skin such as the palms and soles.*
2. *Creams (oil in water emulsions) are less greasy, spread more easily and are better tolerated. They may sting upon application and do not hydrate the skin as well as ointments*
3. *Lotions (oil or powder in water emulsions) are best for treating large areas. They may cause stinging and dryness. Combinations of anti-itch ingredients along with a corticosteroid in a lotion are helpful for treating widespread itching as can occur with a drug rash.*
4. *Gels (mixtures of water, alcohol or acetone) are best for oily or hairy skin.*
5. *Pastes (powder in an ointment) are very useful for wet intertriginous areas. The powder absorbs moisture and the ointment lubricates and soothes the skin. Diaper creams are a good example.*

**Table 1: The site on the body affects percutaneous absorption**

Site	Percutaneous absorption	Best vehicle	Local factors influencing absorption
Palms	0.83 X	Ointment	thick stratum corneum
Soles	0.14 X	Ointment	thick stratum corneum
Extremities (flexural surface)	1.0 X	Ointment for dry skin, Cream	Index
Extremities (extensor surface)	3.6 X	Ointment for dry skin, Cream or Lotion	Skin thinner from chronic sun exposure
Intertriginous Areas	3.6 X	Cream, Lotion, Paste	Self Occlusion and Increased moisture
Face	6 - 13 X	Cream, Lotion, Gel	Highly vascularized and numerous follicular openings
Scrotum	42 X	Cream, Lotion	Increased moisture, self occlusion
Eyelids	42 X	Ointment	Thin skin

Using topical corticosteroids safely and effectively by Eileen Murray MD FRCP  
<http://thischangedmypractice.com/topical-corticosteroids/>

**Table 2: Potency Rankings of some of the commonly used topical corticosteroids**

<b>Corticosteroids molecule</b>	<b>Vehicle</b>	<b>Potency Rank Most to Least</b>	<b>Daily application frequency</b>	<b>When to use</b>
clobetasol propionate .05%	cream or ointment	1	OD	Palms and soles severely lichenified plaques
Betamethasone Dipropionate .05 %	Cream or ointment	1	OD	Plaques, Severe acute inflammation
Amcinonide 0.1% OD	Ointment	2	OD	Thick Scaly Plaques, Dry lichenified Plaques of chronic eczematous rashes
Mometasone Furoate 0.1%	Ointment	2	OD	
Betamethasone Valerate 0.1%	Ointment	3	OD or BID	
Amcinonide 0.1%	Cream	3	BID	Acute inflammation
Hydrocortisone 17 valerate 0.2%	Ointment	4	BID	Moderately severe chronic or subacute eczematous rashes
Triamcinolone acetonide 0.1%	Ointment	4	BID	
Mometasone Furoate 0.1%	Cream or lotion	4	OD	
Betamethasone valerate 0.1%	Cream	5	BID	Mild or moderately severe acute eczematous rashes
Hydrocortisone 17-Valerate 0.2%	Cream	5	BID	
Triamcinolone Acetonide 0.1%	Cream	5	BID	
Betamethasone Valerate 0.05%	Lotion	6	BID	Scalp
Desonide 0.05%	Cream or ointment	6	BID or TID	Chronic eczematous rashes on thin or vascularized skin
Hydrocortisone 1%	Cream or ointment	7	BID or TID	