



School of Continuous  
Professional Development

# WHAT'S TOPICAL IN TOPICALS

TOPICAL CORTICOSTEROIDS: WHAT, WHEN, WHERE,  
HOW MUCH AND FOR HOW LONG

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- Nothing to disclose

# REFERENCES TO OFF-LABEL USAGE(S) OF PHARMACEUTICALS OR INSTRUMENTS

- Nothing to disclose

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# TOPICAL STEROIDS

## HOW TO CHOOSE

- How do I decide which topical steroid potency to use?
- What vehicles are suitable for different clinical situations?
- What quantity should be prescribed?



**TOP SECRET INFORMATION**

# AIM

- To provide a practical guide to the use of topical corticosteroids and other topical immunosuppressive medications
  - Cases we have shared with you
  - Situations I commonly get questions about

# LEARNING OBJECTIVES

- To remember names of 3 corticosteroid creams you can use in your practice:
  - Low potency
    - Hydrocortisone
  - Mid potency
    - Triamcinolone
  - High potency
    - Clobetasol/fluocinonide
- To know when to use other topical immunosuppressive medications
  - Tacrolimus
  - Pimecrolimus
- To know what vehicles are suitable for different clinical situations
- To know how much to prescribe

# A SUMMARY OF DERMATOLOGY

IF IT'S WET, DRY IT

IF IT'S DRY, WET IT



# FURTHERMORE

IF THEY'RE OFF STEROIDS PUT THEM ON THEM

IF THEY'RE ON STEROIDS TAKE THEM OFF THE



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## EFFECT OF CORTISONE AND PITUITARY ADRENOCORTICOTROPIC HORMONE (ACTH) ON RHEUMATIC DISEASES

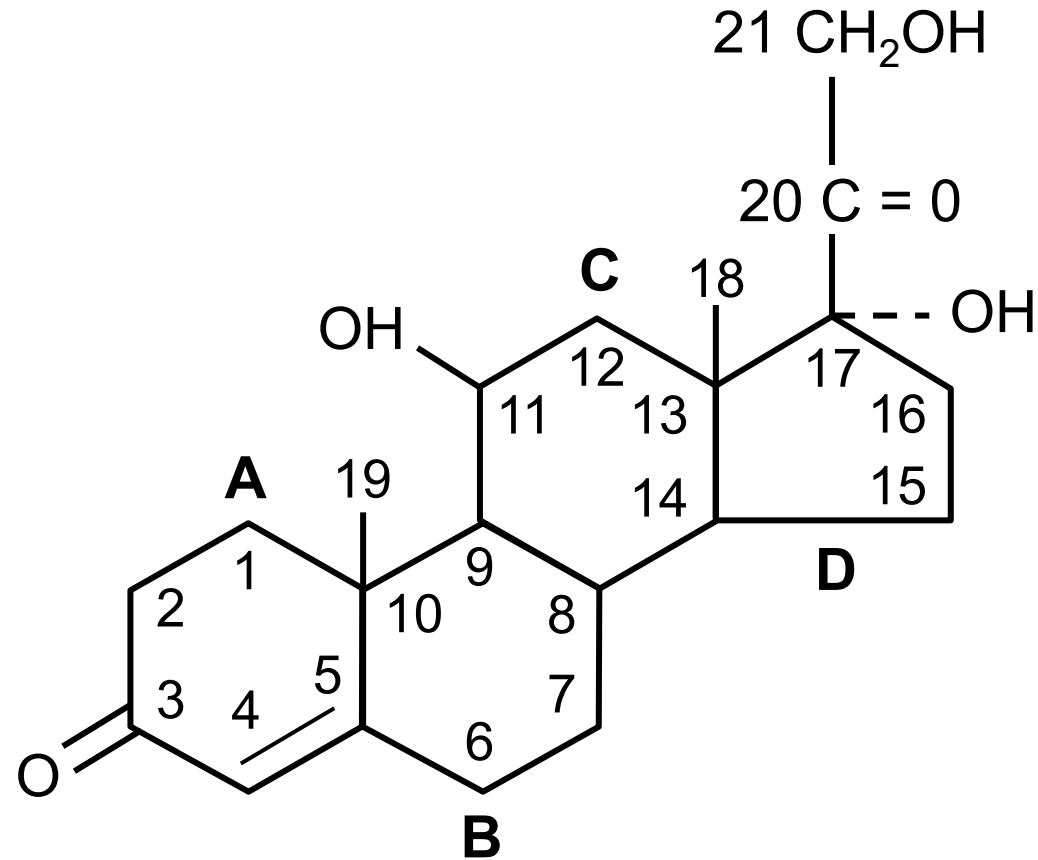
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In our first series of cases<sup>1</sup> of rheumatoid arthritis, in all of which the disease was severe, the antirheumatic effect was very marked (almost complete relief) in 12 (57 per cent) of the 21 cases in which cortisone was given, marked (75 to 90 per cent relief) in 8 (38 per cent) and moderate in 1 (5 per cent). The antirheumatic effect was very marked in 4 (67 per cent) of 6 cases in which pituitary adrenocorticotrophic hormone was given and marked in the remaining 2 (33 per cent).

### GENERAL PLAN OF DOSAGE

*Cortisone.*—Cortisone<sup>2</sup> was given as a crystalline suspension injected intramuscularly. The initial day's

# CHEMICAL STRUCTURE OF CORTISOL



# SYSTEMIC CORTICOSTEROIDS

- Miraculous for inflammatory dermatoses
  - OK for short-term
- So why not use them all the time?
- Side-effects
  - Associated with prolonged or repeated use of systemic corticosteroids
- What's more sustainable?



## CLINICAL PEARL

- Don't use continuous or repeated (oral or injected) corticosteroids eg, prednisone as a long-term treatment for dermatitis
- High doses are often needed
- Serious short- and long-term adverse effects in both children and adults

# TOPICAL CORTICOSTEROIDS

## HISTORY

- First used shortly after discovery of corticosteroids at Mayo Clinic
  - Nobel prize 1950
- Mainstay of treatment for all inflammatory skin disease since then
  - Dermatitis
- Anti-inflammatory drugs
- Classified according to vasoconstrictor ability



| Brand Name   | Generic Name                 |
|--|------------------------------|
| <b>Class 1 – Super potent</b>                                  |                              |
| Clobex <sup>®</sup> lotion/spray/shampoo                       | 0.05% clobetasol propionate  |
| Olux <sup>®</sup> E foam                                       | 0.05% clobetasol propionate  |
| Temovate E <sup>®</sup> emollient/cream/ointment/Gel/Scalp     | 0.5% clobetasol propionate   |
| Ultravate <sup>®</sup> cream                                   | 0.05% halobetasol propionate |
| Vanos <sup>®</sup> cream                                       | 0.1% fluocinonide            |
| <b>Class 2 – Potent</b>  |                              |
| ApexiCon <sup>®</sup> cream                                    | 0.05% diflorasone diacetate  |
| Elocon <sup>®</sup> ointment                                   | 0.1% mometasone furoate      |
| Halog <sup>®</sup> ointment                                    | 0.1% halcinonide             |
| Topicort <sup>®</sup> cream/ointment                           | 0.25% desoximetasone         |
| <b>Class 3 – Upper mid strength</b>                            |                              |
| Lidex-E <sup>®</sup> cream                                     | 0.05% fluocinonide           |
| Topicort <sup>®</sup> LP cream                                 | 0.05% desoximetasone         |
| <b>Class 4 – Mid Strength</b>                                  |                              |
| Cloderm <sup>®</sup> cream                                     | 0.1% clocortolone pivalate   |
| Elocon <sup>®</sup> cream                                      | 0.1% mometasone furoate      |
| Aristocort <sup>®</sup> A cream, Kenalog <sup>®</sup> ointment | 0.1% triamcinolone acetonide |
| Luxiq <sup>®</sup> foam  | 0.12% betamethasone valerate |
| Synalar <sup>®</sup> ointment                                  | 0.25% fluocinolone acetonide |

| Brand Name   | Generic Name                     |
|--|----------------------------------|
| <b>Class 5 – Lower Mid Strength</b>  |                                  |
| Cutivate <sup>®</sup> lotion   | 0.05% fluticasone propionate     |
| Dermatop <sup>®</sup> cream  | 0.1% prednicarbate               |
| Pandel <sup>®</sup> cream  | 0.1% hydrocortisone probutate    |
| Synalar <sup>®</sup> cream   | 0.025% fluocinolone acetonide    |
| <b>Class 6 – Mild</b>  |                                  |
| Aclovate <sup>®</sup> cream/ointment   | 0.05% alclometasone dipropionate |
| Verdeso <sup>™</sup> foam  | 0.05% desonide                   |
| Desonate Gel <sup>™</sup>  | 0.05% desonide                   |
| Derma-Smoothe/FS <sup>®</sup> scalp oil  | 0.01% fluocinolone acetonide     |
| Synalar <sup>®</sup> topical solution  | 0.01% fluocinolone acetone       |
| <b>Class 7 – Least Potent</b>  |                                  |
| Nutracort <sup>®</sup> lotion, Synacort <sup>®</sup> cream and generic prescription strength creams, lotions & ointments | 2%/2.5% hydrocortisone           |
| Cortaid <sup>®</sup> cream/spray/ointment and many other over-the-counter products                                       | 0.5-1% hydrocortisone            |



WHICH ONE SHOULD I USE?

# PICK 1 FROM EACH GROUP

## OUR WORKHORSE DRUGS ARE

### Low potency

- Hydrocortisone 1% – available over the counter

### Mid potency

- Triamcinolone 0.1%

### High potency

- Clobetasol 0.05%
- Fluocinonide 0.05%
- Betamethasone 0.1%

# IN KIDS

PICK 1 FROM EACH GROUP OUR WORKHORSE DRUGS ARE

## Low potency

- Hydrocortisone 1% – available over the counter

## Mid potency

- Triamcinolone 0.1%

# LOW POTENCY

## HYDROCORTISONE 1%

- Face
  - Including eyelids
- Body folds/intertriginous areas
  - Axillae
  - Groin
  - Perianal area

# MID POTENCY

## TRIAMCINOLONE 0.1%

- Everywhere else
- ‘Neck down except body folds’
- Can be used indefinitely

# HIGH POTENCY

## CLOBETASOL/FLUOCINONIDE/BETAMETHASONE

- Areas of 'thick skin'
  - Scalp dermatoses
  - Hand dermatoses
- 'Thick' inflammatory dermatoses
  - Psoriasis
  - Prurigo nodularis
- 'Severe' inflammatory dermatoses
  - Poison ivy dermatitis
- Places that might surprise you
  - Mucosal membranes
    - Oral – aphthous ulcers, ulcerated oral lichen planus
    - Vulval – lichen sclerosus (et atrophicus)

# POSSIBLE ADVERSE EFFECTS – LOCAL

## MOSTLY SEEN WITH HIGH POTENCY

- Atrophy
- Telangiectasias
- Skin bruising
- Fragility
- Ecchymoses
- Allergic contact dermatitis

# WHAT VEHICLE?

- Ointments
- Creams
- Lotions
- Solutions
- Gels
- Foams
- Sprays



# WHAT VEHICLE?

## RULE OF THUMB

**All can be used on skin in addition:**

- \*Ointments- anywhere
- \*Creams- anywhere
- Lotions- anywhere
- Solutions- scalp
- Foams- scalp
- Sprays- scalp
- Gels- mucous membranes especially mouth

# VEHICLE

- Affects potency
  - Ointment>cream> lotion
- Ointments
  - More soothing

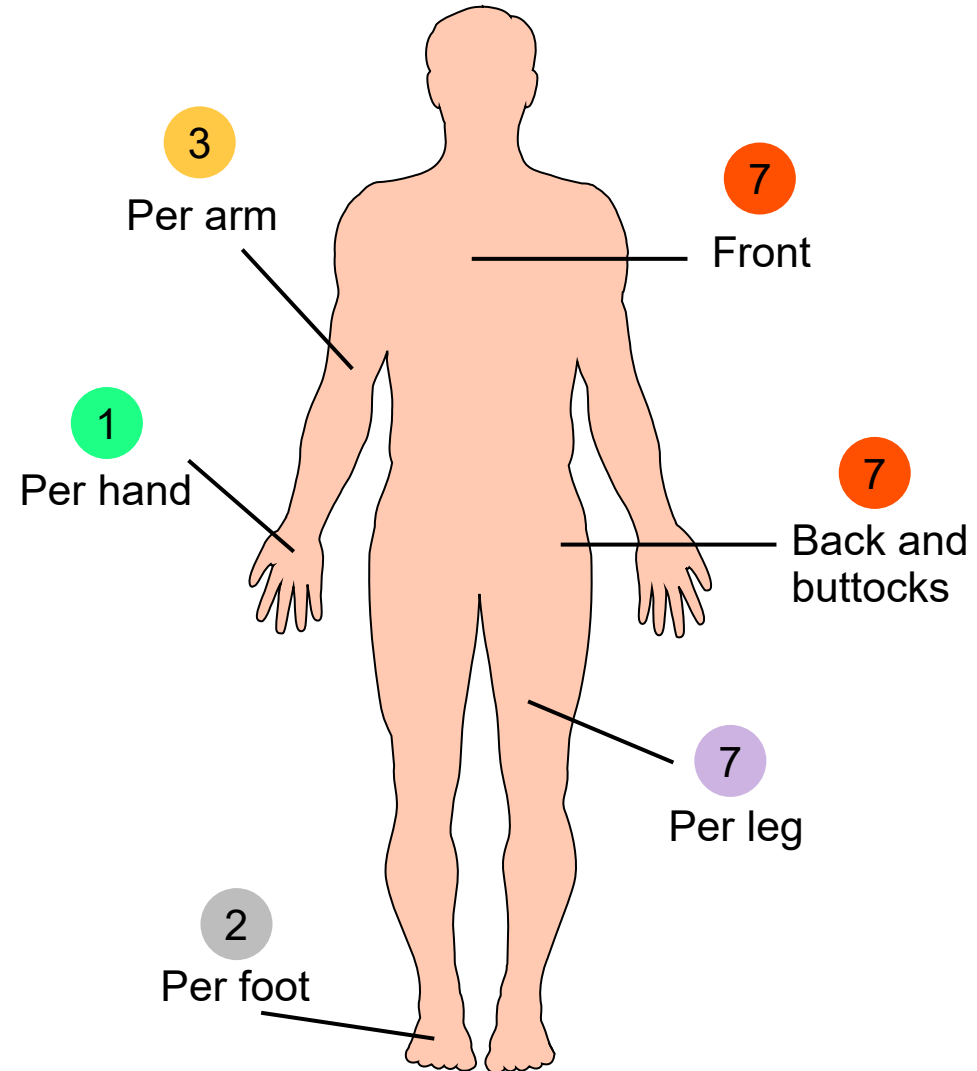


# HOW MUCH TO APPLY?

One fingertip unit will cover  
1 hand = approx 0.5g

## Implication:

- Total body involvement?
- You need 38 g for each application!



# IN PRACTICE

## WHEN PRESCRIBING: GIVE ENOUGH!!

- Make sure to give your patient enough topical corticosteroid
  - Limited skin involved? Give 60-80g
  - Lots of patches? Give 120-240 g
  - Full body? Give 484 g (1 lb)

# HOW OFTEN APPLIED

1-2 TIMES DAILY



# HOW LONG SHOULD TOPICAL STEROIDS BE USED?

- Until dermatosis is under control
- **Not indefinitely!**

# CALCINEURIN INHIBITORS

- Calcineurin inhibitors
  - Topical tacrolimus 0.1% or 0.03% ointment applied BID
  - Topical pimecrolimus cream 1% applied BID
- Potency: Equivalent to Low to mid potency corticosteroids

# OFF-LABEL USE: CALCINEURIN INHIBITORS

- Use instead of topical corticosteroids
  - Other forms of dermatitis
- Especially face, intertriginous areas
  - Other inflammatory disorders of skin
- Lichen planus, lichen sclerosus et atrophicus
- About equivalent to low to mid-potency topical corticosteroids



# CALCINEURIN INHIBITORS

## BLACK BOX WARNING

- In view of case reports with systemic (oral/iv) tacrolimus, theoretical risk of lymphoma with topical forms
- FDA recommendations:
  - Avoid use
    - For sustained treatment
    - As first-line agents
    - In children <2 years old

# **CASE SCENARIOS**

FOR EACH OF THE FOLLOWING SITUATIONS WRITE  
DOWN YOUR TREATMENT PRESCRIPTION

# PICK 1 FROM EACH GROUP

## OUR WORKHORSE DRUGS ARE

### Low potency

- Hydrocortisone 1% – available over the counter

### Mid potency

- Triamcinolone 0.1%

### High potency

- Clobetasol 0.05%/
- Fluocinonide 0.05%

# WHAT VEHICLE?

- Ointments
- Creams
- Lotions
- Solutions
- Gels
- Foams
- Sprays

# IN PRACTICE WHEN PRESCRIBING

- Make sure to give your patient enough topical corticosteroid
  - Limited skin involved? Give 60 g
  - Lots of patches? Give 120-240 g
  - Full body? Give 484 g (1 lb)



**HIT THIS ONE OUT OF THE PARK**

# WHICH STEROID WILL YOU USE?



Which steroid?  
Which vehicle?  
How much?



Which steroid?  
Which vehicle?  
How much?





Which steroid?  
Which vehicle?  
How much?



Which steroid?  
Which vehicle?  
How much?





Which steroid?  
Which vehicle?  
How much?



Which steroid?  
Which vehicle?  
How much?





Which steroid?  
Which vehicle?  
How much?



Which steroid?  
Which vehicle?  
How much?





Which steroid?  
Which vehicle?  
How much?



Which steroid?

Which vehicle?

How much?

Special ingredient?





Which steroid?  
Which vehicle?  
How much?  
Special ingredient?



Which steroid?  
Which vehicle?  
How much?  
Special ingredient?



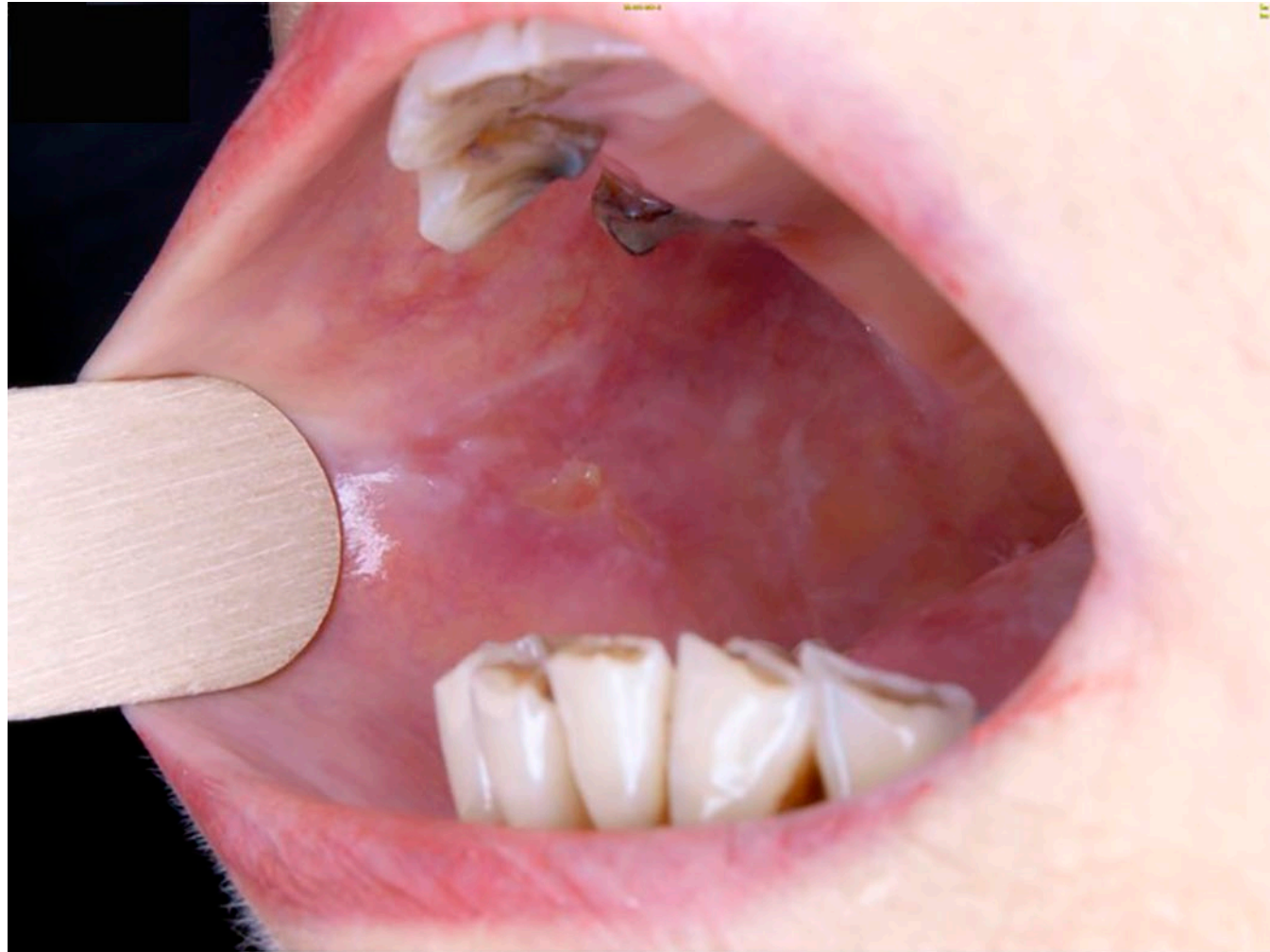


Which steroid?

Which vehicle?

How much?

Special ingredient?



Which steroid?  
Which vehicle?  
How much?



Can the effect of corticosteroids be augmented and give this patient relief?



# YES!

AS INPATIENT OR OUTPATIENT

Wet dressings



PJ/s/  
Longjohns



**WET DRESSINGS IN CONJUNCTION  
WITH TOPICAL STEROIDS WORK!**





# HOW DO WE DO WET DRESSINGS?

- Simply put:
  - Wear wet PJ's /longjohns or
  - Wear dry PJ;s/longjohns and get them wet
  - Keep warm









# **OVERALL MESSAGE**

THANK GOODNESS FOR TOPICAL CORTICOSTEROIDS!

# NOW THAT HAVE TOLD YOU ALL OUR DERMATOLOGY SECRETS.....

But what should you do if  
the topical steroids don't  
work!

That, my dear, must be  
kept a secret – and now  
AU REVOIR



# QUESTIONS & DISCUSSION

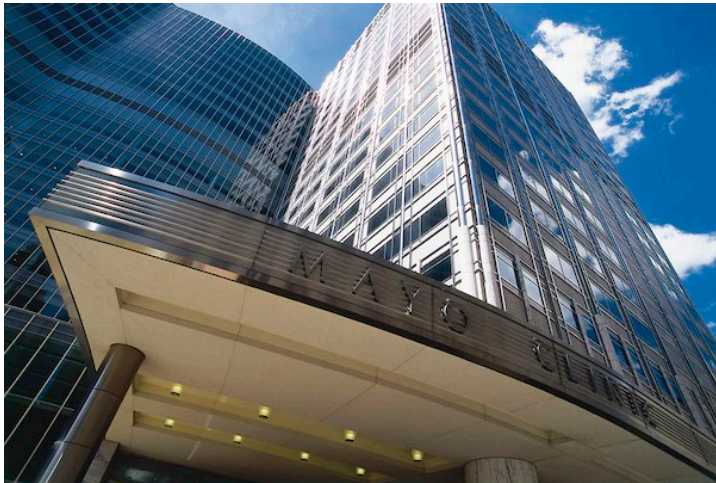






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