

# Guidelines for Prolonged Corticosteroid Therapy

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## **CORTICOSTEROIDS ARE USED:**

- 1. AS REPLACEMENT THERAPY.**
- 2. IN NON-ENDOCRINAL DISORDERS.**
- 3. FOR DIAGNOSTIC PURPOSE.**

# Dosing schedule of Corticosteroids

## FOR ACTH SUPPRESSION

SMALL FREQUENT DOSES OR EVENING DOSE

## FOR ANTIINFLAMMATORY PURPOSE -

SINGLE DOSE IN MORNING

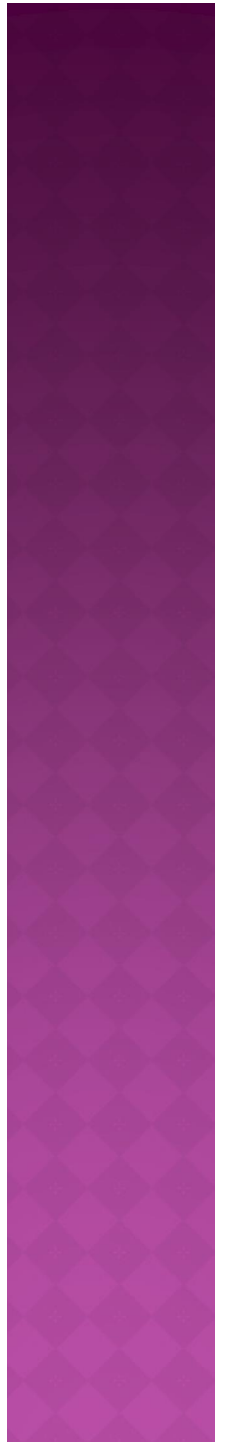
## FOR IMMUNOSUPPRESSION -

ALTERNATE DAY SCHEDULE

## FOR COLLAGEN DISEASES -

PULSE THERAPY

**DO NOT USE  
CORTICOSTEROID  
UNLESS ABSOLUTELY  
INDICATED.**



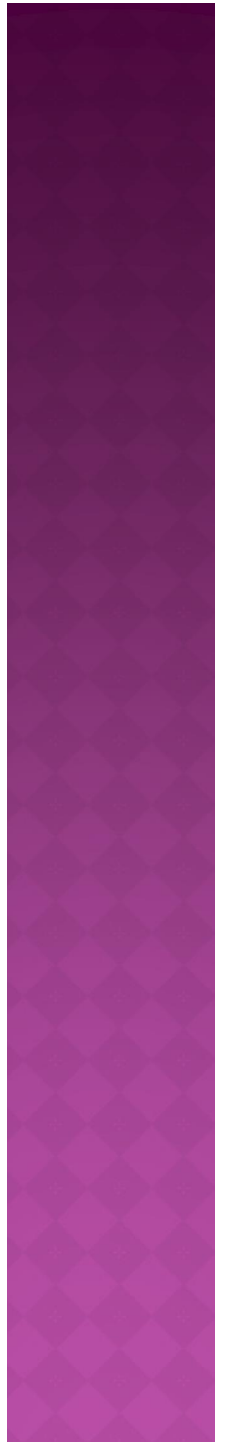
**IF APPROPRIATE, USE  
CORTICOSTEROID  
TOPICALLY OR LOCALLY  
AND NOT SYSTEMICALLY.**



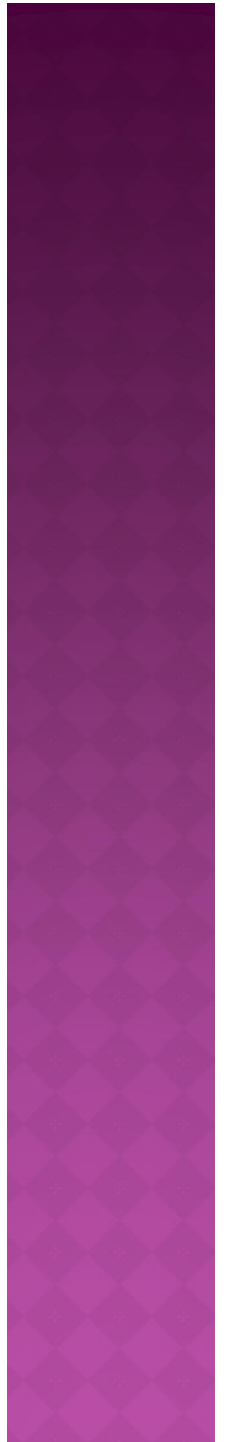
# Corticosteroids -

**KEEP DOSE AND DURATION OF  
THERAPY TO THE MINIMUM  
REQUIRED FOR THE CONDITION.  
“LOWEST EFFECTIVE DOSE FOR  
THE LEAST POSSIBLE TIME”**

**SINGLE LARGE DOSE OF  
CORTICOSTEROID IS  
DEVOID OF ANY TOXIC  
EFFECT AND CAN BE  
SAFELY USED IN  
EMERGENCY.**



**CORTICOSTEROID CAN BE  
SAFELY USED FOR 1 WEEK IN  
ABSENCE OF  
CONTRAINDICATION.**





**FOR PROLONGED THERAPY,  
CORTICOSTEROID IS  
STARTED IN LOW DOSES  
AND THEN DOSE IS  
GRADUALLY INCREASED  
TILL DESIRED EFFECT IS  
OBTAINED.**



# Corticosteroids -

**LONG TERM ADRs ARE LIKELY TO OCCUR WHEN USED FOR PROLONGED (>1WK) DURATION IN THE DOSE EXCEEDING THE DOSE REQUIRED FOR SUBSTITUTION THERAPY.**

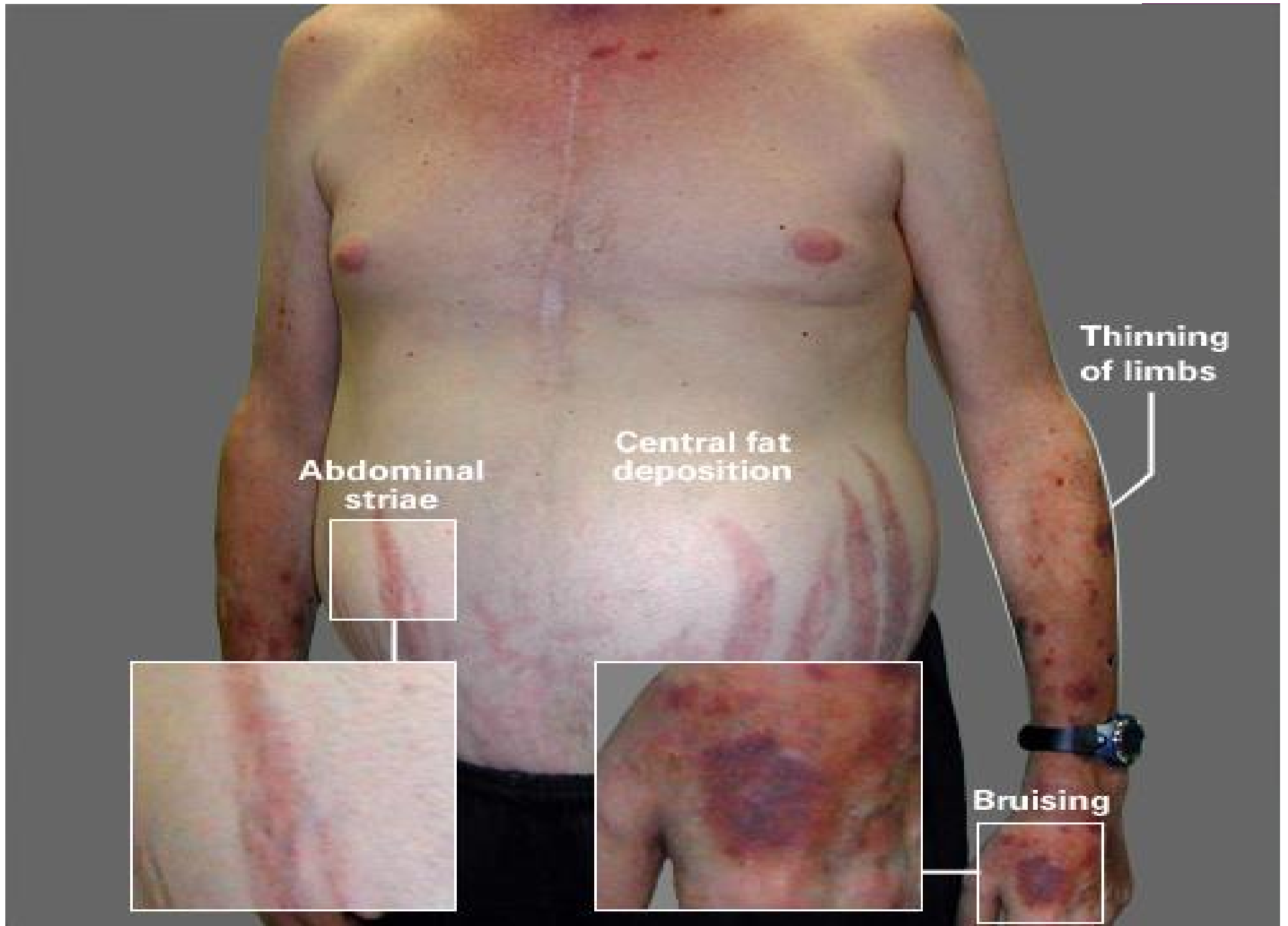












**Abdominal striae**

**Central fat deposition**

**Thinning of limbs**

**Bruising**





**SUDDEN WITHDRAWAL OF  
CORTICOSTEROID AFTER PROLONGED  
USE (  $\geq$  3 WKS ) CAUSES ACUTE  
ADRENAL CRISIS.**



## **Gradual withdrawal is also indicated -**

- 1. If dose of Prednisolone is  $> 40\text{mg/ d}$  irrespective of length of time.**
- 2. Second dose of drug is given in evening.**
- 3. Short course is given within 1 year of stopping long term therapy.**
- 4. Presence of other cause of adrenal suppression.**

## Gradual withdrawal of Corticosteroid

- Reduce the dose by 10 - 20% every 3-7 days till Physiological dose is reached.
- Then, reduce this physiological dose more slowly over few weeks to months.
- May switch from long acting to short acting steroid.
- May start alternate day therapy and then gradually reduce the dose.
- Assess the recovery of HPA axis.

# Corticosteroids -

- **HAVE CURATIVE ROLE IN ADRENOCORTICAL INSUFFICIENCY.**
- **HAVE PALLIATIVE ROLE IN OTHER CONDITIONS.**

**DOSE OF CORTICOSTEROID IS  
TO BE INCREASED DURING THE  
COURSE OF THERAPY IF  
PATIENT IS EXPOSED TO STRESS  
LIKE- SURGERY, TRAUMA  
AND INFECTION.**



# CORTICOSTEROIDS DURING SURGERY

- ⊙ **Minor surgery - Hydrocortisone 25mg IV at induction**
- ⊙ **Moderate surgery - Hydrocortisone 25-50mg IV 3 times a day - 1 day**
- ⊙ **Major surgery - Hydrocortisone 25-50mg IV 3 times a day - 2-3 days**

# CORTICOSTEROIDS IN CHILDREN

- **May cause arrest of linear growth.**
- **Risk is more with high dose.**
- **Risk is very less if low dose**  
**Prednisolone is used on**  
**alternate days.**

# FOR PROLONGED CORTICOSTEROID THERAPY

## SCREEN THE PATIENT FOR -

- ❑ Diabetes
- ❑ Tuberculosis or other Infections
- ❑ Hypertension
- ❑ Heart failure
- ❑ Peptic ulcer
- ❑ Osteoporosis
- ❑ Psychological disturbances
- ❑ Glaucoma or Cataract
- ❑ Hyperlipedemia



# *Management of Osteoporosis*

**EXERCISE**

**CALCIUM**

**VIT. D**

**HORMONE REPLACEMENT THERAPY**

**BIPHOSPHONATES:**

**CALCITONIN**

**TERIPARATIDE**

**CORTICOSTEROIDS**  
**PREFERRED IN LIVER DISEASES**

**Prednisolone over  
Prednisone**

**Cortisol over Cortisone**



# CORTICOSTEROIDS PREFERRED IN RENAL DISEASES

**PREDNISON**

**PREDNISOLONE**



**CORTICOSTEROID PREFERRED**  
**DURING PREGNANCY AND**  
**LACTATION**

**Prednisolone**  
**(40 mg/day)**



# AVOID

- **PROLONGED BED REST.**
- **ACTIVITIES THAT COULD CAUSE FALL OR TRAUMA.**
- **ELECTIVE SURGERY.**
- **SMOKING, EXCESSIVE ALCOHOL AND CAFFEINE.**

# ADVICE

## DIET

- **LOW IN CALORIES, SODIUM & FAT**
- **RICH IN PROTEIN, CALCIUM & POTASSIUM**

## EXERCISE

- **WEIGHT BEARING**
- **BRISK WALKING**
- **ISOMETRIC TAILORED TO PATIENT'S DISABILITY**

# ALERT

- “ WATCH FOR SIGNS OF ADRENOCORTICAL INSUFFICIENCY ON DOSE REDUCTION OR WITHDRAWAL AFTER PROLONGED THERAPY
- SEEK MEDICAL ATTENTION IF BECOMING MORE UNWELL, EXPOSED TO INFECTION DURING STEROIDS THERAPY OR EXPERIENCING SYMPTOMS & SIGNS OF STEROID RELATED ADRs.

## TREATMENT CARD

NAME - .....

AGE - ..... SEX .....

ADDRESS .....

.....

CONTACT NO. ....

I am a patient on CORTICOSTEROID  
treatment which must not be  
stopped suddenly.



# **HON'BLE SUPREME COURT OF INDIA**

***IN ANURADHA SAHA CASE, ORDERED  
HIGHEST EVER COMPENSATION OF  
ABOUT ₹ 11 CRORE (INCLUDING  
INTEREST) AGAINST AMRI HOSPITAL  
AND THREE DOCTORS OF KOLKATA.  
(THE CAUSE OF DEATH WAS CORTICOSTEROID TOXICITY)***



आरोग्यम् सुख सम्पदा

**अखिल भारतीय आयुर्विज्ञान संस्थान, रायपुर (छत्तीसगढ़)**  
**All India Institute of Medical Sciences, Raipur, Chhattisgarh**



**Thank You**

THANK YOU