

Adult-onset Growth Hormone & IGF-1 Deficiency: Physical Signs

As growth hormone and IGF-1 are major anabolic hormones, the **GH/IGF-1 deficiency syndrome in adults** is characterized by premature aging with physical signs of atrophy (**shrinking**), hypotonicity (**sagging**) and fat mass increase (**fattening**).

Appearance

- **Premature aging**
- Bowed back attitude
- Shorter stature : - since childhood
- reduced height with aging
- Overweight or even obese
- Tired

Behavior

- Nervous, anxious behavior
- **Tendency to dramatize stressful situations**
- Excessive emotional reactions
- Sharp verbal retorts

Face

- Small forehead
- **Deeply wrinkled forehead**
- Thin, poorly developed eyebrows
- Droopy upper eyelids
- **Thinner nose**
- **Thin lips**

Face

- Small malar (zygomatic, cheek) bones
- Deep naso-labial folds
- Receding gums
- Sagging cheeks
- Jaw bone atrophy
- Small chin

Scalp

- Thin hair

Neck: Loose skin folds under the chin

Shoulders: • Atrophying muscles

Back

- Bowed back (kyphosis)
- Tensed shoulder muscles
- Droopy muscles: aspect of 'draperies'

Chest

- Men: Gynecomastia
- Men & Women: Sagging breasts (ptosis)

Arms

- **Droopy triceps**
- **Thin muscles**
- Decreased muscle strength
- Blood pressure:
 - High systolic pressure
 - High diastolic pressure

Abdomen

- Overweight/obese body
- Abdominal obesity
- Droopy belly
- Women; Pregnancy stretch marks

Hands

Back of hands

- Thin, rigid
- **Prolonged pinched skin fold**
(> 3 seconds of duration when the skin is pinched on the back of the hand)

Palms

- Muscle atrophy (soft when pressed)

Fingers

- Deformed finger joints (Heberden's nodes)
- Thin fingers

Buttocks

- Fatty buttocks
- Sagging (muscle atrophy)
- Stretch marks of rapid weight increase

Nails: • Longitudinal lines

Thighs

- Cellulite
- **Sagging inner thighs**
- Fatty cushions above the knees

Sexually: Men

Childhood-onset GH deficiency

- Poorly developed beard
- Poorly developed chest hair
- Diffuse loss of chest hair
- Small penis

Aging men with GH deficiency

- Penis atrophy
- Peyronie's disease
- Loose preputium
- Small testicles

Knees: • Deformed knees (osteoarthritis)

Legs

- Thin skin
- Dry skin

Feet

- **Soles: muscle atrophy**
- Reduced arch
- Flat feet

Genitally: Women

- Small breasts

