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

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

**Scalp**
- Thin hair

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

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

**Abdomen**
- Overweight/obese body
- Abdominal obesity
- Droopy belly
- Women: Pregnancy stretch marks

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

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

**Knees**
- Deformed knees (osteoarthritis)

**Legs**
- Thin skin
- Dry skin

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

**Genitalia: Women**
- Small breasts

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

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

**Neck:** Loose skin folds under the chin

**Shoulders:**
- Atrophying muscles

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

**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

**Nails:**
- Longitudinal lines

**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 prepuitum
- Small testicles