CPEG Consensus Criteria for the Diagnosis of Growth Hormone Deficiency in Canada – October 2010

1. Criteria for GH Testing

a) **Auxology**
growth velocity less than 25% for bone age documented over a 12 month period.

AND ONE OF THE FOLLOWING

b) **Auxology**
short stature <2 SD for midparental height.

OR

c) **Bone Age**
delayed by 2 SD as compared to chronological age.

OR

d) **Exceptions**
other significant features associated with growth hormone deficiency (e.g. micropenis, hypoglycemia, septo-optic dysplasia, cranial irradiation or surgery in the hypothalamic-pituitary region) may be acceptable reasons to test for GH deficiency in lieu of the above mentioned auxologic criteria.

2. Criteria for Diagnosis of GH Deficiency

a) two pharmacologic stimulation tests with peak <10 µg/L

OR

b) one pharmacological test with peak <3 µg/L with abnormality on MRI

Note:

- GH peak levels listed above have been arrived at using the Nichols Institute Diagnostics radioimmunoassay. Labs using different GH assays should standardize their particular assay to previously established normal/abnormal levels to arrive at their cutoff for GH deficiency.
- Priming with Premarin 1.25 mg PO HS × 2 nights or Estrace (17β-estradiol) 2 mg PO HS × 2 nights before testing should be done in all girls with bone age >8 years and boys with bone age >9 years up until Tanner 4 pubertal stage.
- Pituitary abnormality is defined as the triad of: small anterior pituitary, small or absent stalk, and ectopic posterior pituitary.

3. CNS Imaging

MRI or, if unavailable, high-contrast CT, should be performed on all newly diagnosed GH-deficient patients to rule out organic pathology and to assess the pituitary anatomy.