

### OBJECTIVE

Clinicians in Alberta select optimal laboratory tests for investigation of suspected acromegaly

### TARGET POPULATION

Any person with signs or symptoms of acromegaly

### EXCLUSIONS

None

## RECOMMENDATIONS

- ✓ Measure fasting insulin-like growth factor 1 (IGF-1) to diagnose acromegaly
- ✓ Repeat test if result is borderline
- ✓ Refer to endocrinologist as soon as possible if acromegaly is suspected

### Acromegaly Clinical Features

Those resulting from the mass effects of the enlarging tumor:

- Headaches
- Visual field defects
- Hypopituitarism

Those resulting from hormone over secretion:

- |  |                       |
|--|-----------------------|
| • Coarse facial features   | • Glucose intolerance |
| • Acral overgrowth (e.g., increasing glove, hat, ring, shoe sizes) | • Neuropathy          |
| • Soft tissue change (e.g., skin tags)                             | • Arthritis           |
| • Hyperhidrosis  | • Sleep apnea         |

## BACKGROUND

Acromegaly is a chronic debilitating condition that is usually the result of a growth hormone secreting pituitary adenoma. Epidemiologic studies have suggested an incidence of three to four per million with a prevalence of 68 to 80 cases per million.<sup>1,2</sup>

Serum IGF-1 detects nearly all cases of acromegaly and correlates with the clinical activity of the disease.<sup>3-5</sup> Acromegaly must be diagnosed with endocrine investigation prior to radiologic examinations.

## REFERENCES

1. Melmed S, Ho K, Klibanski A, et al. Recent advances in pathogenesis, diagnosis and management of acromegaly. *J Clin Endocrinol Metab*, 1995;80:3395-3402.
2. Ezzat S, Wilkins G, Patel Y, et al. The diagnosis and management of acromegaly: a Canadian consensus report. *Clin Invest Med*, 1996;19:259-70.
3. Clemmons DR, Van Wyk JJ, Ridgway EC, et al. Evaluation of acromegaly by radioimmunoassay of somatomedin C. *N Engl J Med*, 1979;301:1138-42.
4. Roelfsma F, Frolich M, Van Dulken H. Somato- medin-C levels in treated and untreated patients with acromegaly. *Clin Endocrinol (Oxf)*, 1978;26:1137-44.
5. Hartman ML, Veldhuis JD, Vance ML, et al. Somatotropin pulse frequency and basal concentrations are increased in acromegaly and are reduced by successful therapy. *J Clin Endocrinol Metab*, 1990;7:1375-84.

### ***SUGGESTED CITATION***

Toward Optimized Practice (TOP) Endocrine Working Group. 2008 January. Laboratory endocrine testing: acromegaly clinical practice guideline. Edmonton, AB: Toward Optimized Practice. Available from: <http://www.topalbertadoctors.org>

For more information see [www.topalbertadoctors.org](http://www.topalbertadoctors.org)

### ***GUIDELINE COMMITTEE***

The committee consisted of representatives of family medicine, general medicine, medical biochemistry, pathology, internal medicine, endocrinology, laboratory technologists and the public.

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