

<b>DATE:</b>	17 June 2024
<b>TO:</b>	All Zones: All Healthcare Professionals and Providers
<b>FROM:</b>	Clinical Biochemistry, Alberta Precision Laboratories (APL)
<b>RE:</b>	Change to Testing Methodology and Reference Intervals for Androstenedione

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### Key Message

- Effective June 17, 2024, serum Androstenedione will be analyzed using Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS).
- Owing to greater specificity, LC-MS/MS methods exhibit significant bias compared to immunoassay methods.
  - Reference intervals will be updated to accommodate the change in methodology (see below table), and a comment will be appended to indicate samples were analyzed by LC-MS/MS.
- The Diagnostic and Scientific Center (DSC) Laboratory in Calgary continues to test Androstenedione for the entire province.

### Current Reference Intervals:

Age	Sex	Reference Interval (nmol/L)
< 16 years	Any	None
≥ 16 Years	Male	2.1 – 10.8
	Female	1.0 – 11.5

### Updated Reference intervals:

Age	Sex	Reference Interval (nmol/L)
≤ 18 years	Any	None
> 18 Years	Male	1.4 – 7.7
	Female	0.7 – 10.0
	Unspecified / X	Comment: Male: 1.4 – 7.7 Female: 0.7 – 10.0

### Background

- LC-MS/MS is the gold standard methodology for Androstenedione and 17-Hydroxyprogesterone.
- Androstenedione testing will be multiplexed and run alongside 17-Hydroxyprogesterone.
  - These tests are used clinically for diagnosis and monitoring of patients with Congenital Adrenal Hyperplasia, and to evaluate symptoms of hyperandrogenism.
  - Approximately 60% of Androstenedione tests are ordered together with 17-Hydroxyprogesterone. Multiplexing these tests will improve workflow and quality of results while providing cost savings.



**Action Required**

- Be aware of the new methodology and reference intervals. Patients may require re-baselining.

**Questions/Concerns**

- Dr. Josh Raizman, Clinical Biochemist, APL, [josh.raizman@aplabs.ca](mailto:josh.raizman@aplabs.ca) or 780-718-2402.
- Dr. Dennis Orton, Clinical Biochemist, APL, [dennis.orton@aplabs.ca](mailto:dennis.orton@aplabs.ca) or 403-770-3219.

**Approved by**

- Dr. Kareena Schnabl, Clinical Biochemistry Section Chief, North Sector, APL
- Dr. Allison Venner, Clinical Biochemistry Section Chief, South Sector, APL
- Dr. Paul Klonowski, Associate Medical Director, Hub Lab South, APL

*Effective September 1, 2023, APL has become the sole provider of all public lab services in Alberta. As a result, community lab services formally provided by DynaLIFE Medical Labs will become the responsibility of Alberta Precision Labs (APL). This change impacts all zones.*