

## Clinical biochemistry reference range changes at Croydon Hospital

### Tumour markers: CA125, PSA, AFP, CA199 & CEA

Cut-off values remain the same, but patients with a known elevated value may have slightly different results. If results are unexpected or anomalous, please contact extension 4053 and ask for the Duty Biochemist.

Biochemistry assays with changing reference ranges			
ANALYTE	OLD reference ranges	NEW range from 30/09/24	SOURCE OF NEW RANGES
<b>Conjugated bilirubin</b>	0-10 µmol/L	0-8 µmol/L	Derived from verification comparison
<b>B12</b>	180 – 999 ng/L	65-750 ng/L	Derived from verification comparison and agreed with Haematology Consultants  Please note that this range is not in-line with NICE NG239 guidance
<b>Ferritin</b>	M 0 to 1m 15-200 µg/L M 1m to 3m 200-600 µg/L M 4m to 6m 50-200 µg/L M 7m to 16y 7-140 µg/L M >16y 30-400 µg/L F 0 to 1m 25-200 µg/L F 1m to 3m 200-600 µg/L F 4m to 6m 50-200 µg/L F 7m to 16y 7-140 µg/L F 16y to 60y 13-150 µg/L F >60y 30-400 µg/L	M 0 - 14d 40-540 µg/L M 15d - 6m 15-375 µg/L M 7m - 1y 15-190 µg/L M 1y - 15 15-56 µg/L M >15 15-270 µg/L F 0 - 14d 40-540 µg/L F 15d - 6m 15-375 µg/L F 7m - 1y 15-190 µg/L F 1y - 15 15-56 µg/L F 15y to 60y 15-98 µg/L F >60y 15-270 µg/L	Adult range derived from verification comparison and agreed with Haematology Consultants  Paediatric ranges from CALIPER
<b>Troponin</b>	New assay: Troponin I will replace Troponin T Male upper reference limit: 20 ng/L		Beckman Coulter studies

	Female upper reference limit: 12 ng/L				
<b>Prolactin</b>	<1m 1m to 1y 1y to 18y Male >18y Female >18y	>23 nmol/L 110-1274 nmol/L 64-532 nmol/L 86-324 nmol/L 102-496 nmol/L	<1m 1m to 1y 1y to 18y Male >18y Female >18y	>9 nmol/L 81-1040 nmol/L 43-428 nmol/L 61-257 nmol/L 74-399 nmol/L	Derived from verification comparison  Samples where a prolactin of >600 nmol/L is seen for the first time will be investigated for the presence of macroprolactin
<b>FT3</b>	0 to 1w 1w to 3m 4m to 1y 1y to 6y 6y to 11y 11y to 16y >16y	2.7-10 pmol/L 3-9 pmol/L 3.3-9 pmol/L 3.7-9 pmol/L 3.9-8 pmol/L 3.9-8 pmol/L 3.1-7 pmol/L	0 to 1w 1w to 3m 4m to 1y 1y to 6y 6y to 11y 11y to 16y >16y	3.9-9.4 pmol/L 4.1-9.1 pmol/L 4.4-8.8 pmol/L 4.7-8.4 pmol/L 4.8-8.1 pmol/L 4.8-7.8 pmol/L 4.2-7.1 pmol/L	Derived from verification comparison
<b>FT4</b>	0 to 1w 1w to 3m 4m to 6m 7m to 1y 1y to 6y 7y to 11y 12y to 16y >16y	11-32.0 pmol/L 11.5-28.3 pmol/L 10.7-27.3 pmol/L 10.7-26.3 pmol/L 12.3-22.8 pmol/L 12.5-21.5 pmol/L 10.5-22.6 pmol/L 10.8-25.5 pmol/L	0 to 1w 1w to 3m 4m to 6m 7m to 1y 1y to 6y 7y to 11y 12y to 16y >16y	7.8-22.0 pmol/L 8.1-19.5 pmol/L 7.6-18.8 pmol/L 7.6-18.1 pmol/L 8.7-15.8 pmol/L 8.8-14.9 pmol/L 7.4-15.6 pmol/L 8.0-18.0 pmol/L	Derived from verification comparison and data from other Hospitals using this assay
<b>Testosterone - females</b>	6m to 9y 9y to 16y 16y to 49y >49y	0-0.79 nmol/L no range provided 0.29-1.67 nmol/L 0.1-1.42 nmol/L	6m to 9y 9y to 16y 16y to 49y >49y	0-1.3 nmol/L no range provided 0.8-2.2 nmol/L 0.7-2.0 nmol/L	Derived from verification comparison Mass spectrometry analysis of sex steroids will continue to be reflexed in samples with a testosterone of $\geq 2.0$ nmol/L
<b>Free androgen index (FAI) - females</b>	0.0-4.0%		0.0-6.5%		Derived from verification comparison SHBG will continue to be reflexed in <40 year olds when testosterone is $\geq 1.0$ nmol/L and in $\geq 40$ year olds when $\geq 0.40$ nmol/L for calculation of FAI
<b>Testosterone - males</b>	6m to 9y 9y to 16y 16y to 49y >49y	0-0.79 nmol/L no range provided 8.64-29 nmol/L 6.68-25.7 nmol/L	6m to 9y 9y to 16y 16y to 49y >49y	0.0-1.3 nmol/L no range provided 7.5-25.0 nmol/L 6.0-22.0 nmol/L	Derived from verification comparison
<b>Free testosterone - males</b>	$\geq 220$ pmol/L excludes androgen insufficiency		$\geq 200$ pmol/L excludes androgen insufficiency		Derived from External Quality Assurance data Free testosterone will be calculated in males with a 8-9 am testosterone level between 7.5-11 nmol/L