



# Marshfield Labs™

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# Laboratory *News*

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## **RE-STANDARDIZATION OF INSULIN-LIKE GROWTH FACTOR 1 (IGF-1) ASSAY**

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Effective February 9, 2017, the Insulin-like Growth Factor 1 (IGF-1) assay performed at Marshfield Labs will switch to reagent kits with a calibrator that was re-standardized with the World Health Organization (WHO) 1st International Standard for insulin-like growth factor 1, NIBSC code 02/254. Providers should expect numerical changes in results. (Please see "Updated Reference Intervals", Tables 1 and 2, on page 2 of this article.) Ordering will remain the same.

### **BACKGROUND**

The stocks of the previous WHO International Reference Reagent (NIBSC code 87/518) are now exhausted. Calibrators used for IGF-1 immunoassays are to be re-standardized with the new WHO reagent, NIBSC code 02/254.

With this re-standardized assay, the observed results showed an average difference of approximately -40% when compared to the current IGF-1 method. As a result of these differences, re-baselining IGF-1 values of your patients is recommended.

The reference intervals are updated based on a multicenter study with samples from 12 cohorts from the United States, Canada, and Europe, that included 15,014 subjects (6,697 males and 8,317 females), 0 to 94 years of age. (J. Clin Endocrinol Metab, May 2014, 99(5); 1712-1721).

### **CONTACTS**

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**BEYOND numbers**

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**UPDATED REFERENCE INTERVALS**

**Table 1.** Reference interval based on age/gender

Reference Intervals for IGF-1 (ng/mL)				
	Male		Female	
Age	Low	High	Low	High
0	25	134	17	107
1	27	142	18	113
2	30	156	21	124
3	35	174	24	140
4	39	191	28	160
5	44	208	32	182
6	49	226	37	204
7	55	247	43	228
8	63	273	50	258
9	72	306	58	295
10	83	343	69	338
11	96	384	80	382
12	108	421	90	421
13	118	449	99	450
14	126	465	106	466
15	130	467	109	467
16	130	457	109	457
17	128	439	107	436
18	125	417	103	410

Reference Intervals for IGF-1 (ng/mL)				
	Male		Female	
Age	Low	High	Low	High
19	120	391	98	381
20	114	363	92	351
21-25	99	300	80	289
26-30	84	238	68	229
31-35	76	209	63	206
36-40	72	197	60	193
41-45	65	184	54	174
46-50	58	174	50	165
51-55	53	170	46	161
56-60	48	165	40	147
61-65	43	160	37	144
66-70	41	163	34	138
71-75	36	152	33	140
76-80	33	146	31	140
81-85	30	140	31	147
86-90	29	141	30	151

**Table 2.** Percentile reference based on Tanner age/gender

Percentiles for IGF-1 according to Tanner Stages						
Tanner	Age Range year	IGF-1, ng/mL				
		2.50%	25%	50%	75%	97.50%
<b>Males</b>						
I	6.1 - 12.9	70.19	113.20	136.30	159.74	216.35
II	8.1 - 14.8	91.11	180.32	234.50	280.61	365.03
III	10.9 - 16.0	207.62	288.51	343.95	379.06	431.48
IV	12.4 - 17.1	188.88	308.08	370.66	415.52	487.17
V	13.5 - 20.0	192.92	261.12	300.69	348.23	482.21
<b>Females</b>						
I	5.8 - 12.1	74.06	130.08	159.57	199.55	273.22
II	9.3 - 14.1	100.60	161.50	209.63	273.39	380.99
III	9.3 - 15.1	218.87	300.52	323.45	363.77	445.84
IV	11.8 - 16.6	190.23	287.33	319.67	369.40	493.97
V	12.5 - 19.9	159.99	234.92	286.74	333.62	431.64

