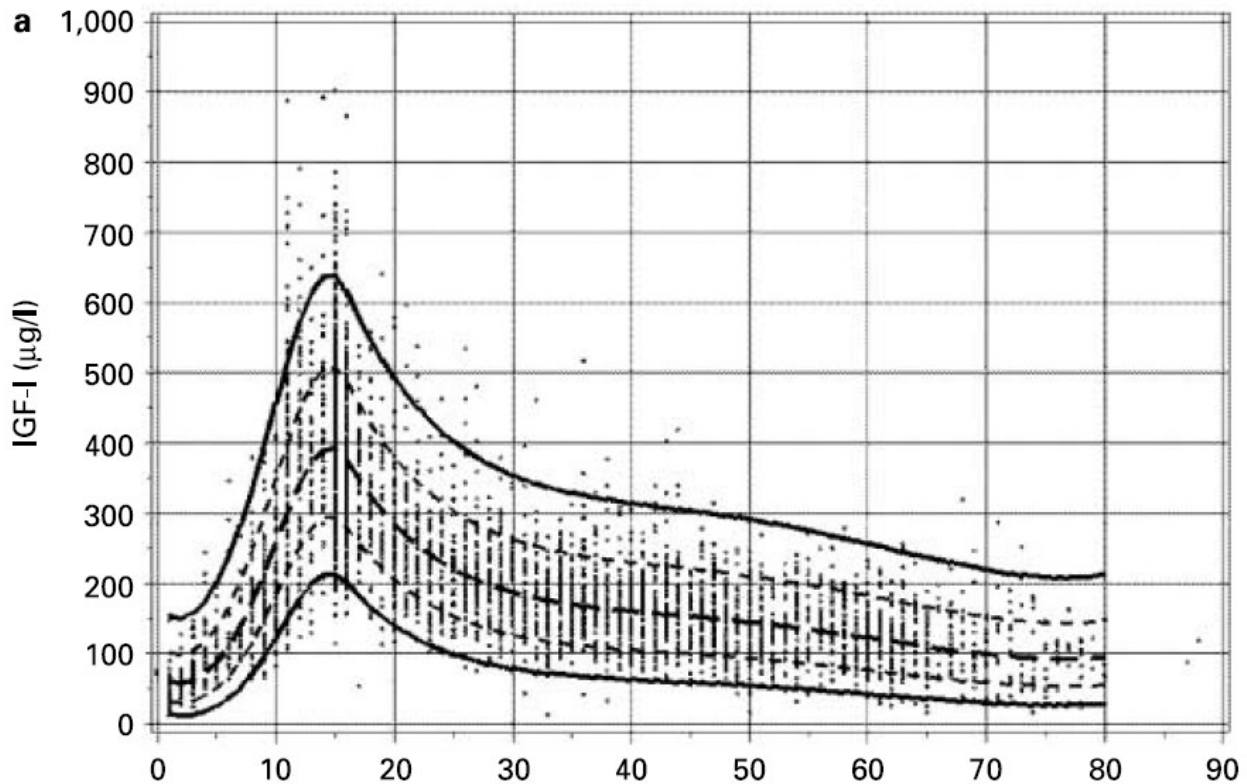


New Normal Reference Ranges for IGF-1

Effective May 22nd, 2018, Providence Regional Laboratories is updating normal reference ranges used for Insulin-Like Growth Factor 1 (IGF-1) performed by the Diasorin Liaison XL. IGF-1 is a single-chain polypeptide of 70 amino acids. Its serum concentration is mainly stimulated by human growth hormone (GH) and retarded by malnutrition. GH has short half-life, and is released in a pulsatile manner making it challenging to measure routinely. Additionally, much of the GH dependent, growth-promoting activity in serum is due to IGF-1. Measuring serum IGF-1 has become integral in the diagnosis of growth-hormone related disorders. Serum IGF-1 concentration varies greatly with age and gender. The figure below shows serum IGF-1 concentration on 3,961 healthy subjects (*Brabant G et.al. Hormonal Research 2003; 60:53-60*)



We validated the new proposed ranges using the normal reference ranges provided by Brabant G et.al on the journal *Hormonal Research* 2003; 60:53-60. The study was IRB approved and used discarded specimens from 176 individuals shown to have a normal metabolic profile. The demographic in the group of specimens consisted of 108 females (1-82 years of age), and 68 males (1-78 years of age). In the table below, we list the new reference ranges by age and gender.

Updated IGF-1 Reference Ranges (Female & Male)											
Sex	Age	Range ng/mL	Sex	Age	Range ng/mL	Sex	Age	Range ng/mL	Sex	Age	Range ng/mL
F	0	8-131	M	0	11-100	F	43	71-258	M	43	78-233
F	1	9-146	M	1	12-120	F	44	69-253	M	44	76-230
F	2	11-165	M	2	13-143	F	45	66-249	M	45	74-227
F	3	13-187	M	3	14-169	F	46	64-246	M	46	72-225
F	4	15-216	M	4	15-200	F	47	62-243	M	47	71-224
F	5	19-251	M	5	16-233	F	48	60-240	M	48	69-224
F	6	24-293	M	6	17-269	F	49	59-238	M	49	68-225
F	7	30-342	M	7	18-307	F	50	57-236	M	50	67-225
F	8	39-396	M	8	20-347	F	51	55-235	M	51	66-225
F	9	49-451	M	9	23-386	F	52	53-234	M	52	65-222
F	10	62-504	M	10	29-424	F	53	52-233	M	53	64-218
F	11	76-549	M	11	37-459	F	54	51-233	M	54	62-214
F	12	90-581	M	12	49-487	F	55	49-234	M	55	61-210
F	13	104-596	M	13	64-508	F	56	48-235	M	56	59-206
F	14	115-591	M	14	83-519	F	57	47-236	M	57	58-204
F	15	121-564	M	15	102-520	F	58	46-238	M	58	56-203
F	16	122-524	M	16	119-511	F	59	44-240	M	59	55-203
F	17	120-479	M	17	131-490	F	60	43-241	M	60	53-206
F	18	117-436	M	18	137-461	F	61	41-243	M	61	51-209
F	19	113-399	M	19	137-428	F	62	40-244	M	62	49-214
F	20	109-372	M	20	133-395	F	63	38-244	M	63	46-219
F	21	107-351	M	21	127-364	F	64	36-244	M	64	43-225
F	22	105-337	M	22	120-338	F	65	34-241	M	65	40-231
F	23	103-326	M	23	112-316	F	66	32-238	M	66	37-236
F	24	102-317	M	24	105-298	F	67	30-235	M	67	34-240
F	25	100-311	M	25	99-283	F	68	28-231	M	68	31-243
F	26	98-305	M	26	94-271	F	69	27-228	M	69	29-245
F	27	96-301	M	27	90-262	F	70	26-226	M	70	27-246
F	28	93-297	M	28	87-255	F	71	24-224	M	71	26-245
F	29	91-293	M	29	84-250	F	72	24-222	M	72	25-242
F	30	89-290	M	30	83-246	F	73	23-221	M	73	24-236
F	31	87-286	M	31	82-244	F	74	22-220	M	74	23-229
F	32	85-283	M	32	82-243	F	75	21-218	M	75	22-221
F	33	83-280	M	33	82-242	F	76	20-216	M	76	22-212

F	34	82-279	M	34	82-242	F	77	20-214	M	77	21-204
F	35	81-278	M	35	83-241	F	78	19-210	M	78	20-196
F	36	80-277	M	36	83-240	F	79	18-206	M	79	19-189
F	37	80-277	M	37	83-239	F	80	18-200	M	80	18-184
F	38	79-276	M	38	83-238	F	81	18-193	M	81	17-180
F	39	78-274	M	39	83-238	F	82	17-186	M	82	16-177
F	40	76-271	M	40	82-237	F	83	17-179	M	83	16-176
F	41	75-267	M	41	81-236	F	84	17-173	M	84	16-176
F	42	73-263	M	42	80-235	F	≥85	17-167	M	≥85	15-177

There are no changes in the ordering, processing, testing schedule, or stability: We require a 5.0 mL Gold Top Tube (SST). Testing is performed Mondays through Fridays. Result turnaround time is 24 hours for weekdays. Sample stability is 8 hours at room temperature, 24 hours refrigerated, and 6 months frozen.

For additional information, please see the Providence Test Catalog online at <https://testmenu.com/providence> or contact Dr. Veronica Luzzi, at (503) 215-6555.