

Thyroid disorders

Gender: Female



Age: 28

Lab code: 1638

Immunology

Thyroid Peroxidase (IgG) **H** 138.5 IU/ml CLIA
1 - 16

Hormones

TSH(CLIA) **L** 0.013 mIU/L CLIA Adult : 0.3 - 4.0

Hashimoto under treating with
Levothyroxine

Gender: Female



Age: 10

Lab code: 1695

Immunology

Anti Thyroglobuline (IgG) **H** 1066 IU/ml CLIA
5 - 100

Thyroid Peroxidase (IgG) **H** 1315 IU/ml CLIA
1 - 16

Hormones

T4(CLIA) 9.57 µg/dl CLIA
Adult : 4.5 - 12.6
Child : 5.5-14.3

TSH(CLIA) 1.79 mIU/L CLIA Adult : 0.3 - 4.0

Gender: Female

Age: 35

Lab code: 1859

Test Name	Result	Unit	Method	Reference Range
<i>Hematology</i>				
W.B.C	H 12.60	1000 / Cumm		4.40 - 11.00
R.B.C	5.28	Mil / Cumm		Adult Male : 4.7-6.1 Female : 4.2-5.4
Hemoglobin	14.3	g/dl		Male : 13-18 Female : 12.2-16
Hematocrit	43.4	%		Male : 42-52 Female : 37-48
M.C.V	82.20	FL		80.0 - 96.0
M.C.H	L 27.08	pg		27.5 - 33.2
M.C.H.C	L 32.95	gr/dl		33.4 - 35.5
RDW	14.5			11.5 - 16.0
Platelest	364			150 - 450
Neutrophils	H 70.4			46 - 66
Lymphocytes	19.5			20 - 40
Monocyte	4.3			2.0 - 10.0

Subclinical hyperthyroidism
after treating with
levothyroxine

<i>Immunology</i>				
Thyroid Peroxidase (IgG)	H 93.39	IU/ml		CLIA 1 - 16

<i>Hormones</i>				
T4(CLIA)	10.39	µg/dl		CLIA Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)	102	ng/dl		CLIA 76.3-220.8
TSH(CLIA)	L 0.026	mIU/L	CLIA	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5

Gender: Female

Age: 42

lab code: 5601

Hormones

T4(CLIA)	6.54	µg/dl		CLIA Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)	87.2	ng/dl		CLIA 76.3-220.8
TSH(CLIA)	H 10.3	mIU/L	CLIA	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5

Subclinical hypothyroidism

Gender: Female

Age: 62

Lab code: U7844

Blood Biochemistry

Test	Flag	Result	Units	Reference Range
Fasting Blood Sugar	High	152		
Glucose (2 hrs pp)		232	mg/dl	Normal : <120 Diabetic : >200
Glycosilated Hb(GHb)		6.6	%	Method: Turbidimetry Non Diabetic : 4.0- 6.5 Goal : 6.0- 7.0 Good Control : 7.0- 8.0 Action Suggested : > 8.0
Triglycerides	High	350	mg/dl	Desirable : Up to 150 Borderline : 150-199 High : 200-499 >500 : Very High

Subclinical hyperthyroidism
Or
Secondary hypothyroidism treated with
Levothyroxine



Hormones

Test	Flag	Result	Units	Reference Range
T.S.H (CLIA)	Low	0.082	mIU/L	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)		1.08	ng/dl	Method: CLIA 0.8-1.7

Next

Gender: Female

Age: 44

Lab code: X2707

Blood Biochemistry

Test	Flag	Result	Units	Reference Range
Fasting Blood Sugar		102	mg/dl	Adult : 74-106 >60 y : 82-115 >90 y : 75-121
Glucose (2 hrs pp)		124	mg/dl	Normal : <120 Diabetic : >200
Glycosilated Hb(GHb)		5.3	%	Method: LPLC Non Diabetic : 4.0 - 6.5 Goal : 6 - 7 Good Control : 7 - 8 Action Suggested : > 8
Total Cholesterol		214	mg/dl	Desirable : Up to 200 200 - 239 : Medium Risk >240 : High Risk
Triglycerides		125	mg/dl	Method: G- P- Oxidase Desirable : Up to 150 Borderline : 150-199 High : 200-499 >500 : Very High

Hormones

Test	Flag	Result	Units	Reference Range
T4(CLIA)		6.45	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		99.4	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	Low	0.04	mIU/L	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)		0.808	ng/dl	Method: CLIA 0.8-1.7

Gender: Male

Age: 44 days

Lab code: X2954

Hormones

Test	Flag	Result	Units	Reference Range
T4(CLIA)	High	15.40	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T.S.H (CLIA)	Low	0.026	mIU/L	Method: CLIA-2 Midgestation fetus : 0.7 - 11 Term infant : 1.3 - 19 3 days : 1.1 - 17 10 weeks : 0.6 - 10 14 months : 0.4 - 7.0 5 years : 0.4 - 6.0 14 years : 0.3 - 5.0 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5

Primary hyperthyroidism

Gender: Female

Age: 24

Lab code: X2989

Hormones

Test	Flag	Result	Units	Reference Range
T4(CLIA)	Low	1.97	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)	Low	71.1 *	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	High	>100.0	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5

Primary Hypothyroidism

Gender: Female

Age: 52

Lab code: U720

Hormones

Test	Flag	Result	Units	Reference Range
25- OH Cholecalciferol Vit D		28.8	ng/ml	Method: CLIA Deficiency : <10 Insufficiency : 10-30 Sufficiency : 30-100 Toxicity : >100
T4(CLIA)	Low	4.20 *	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		78.6	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	High	21.6	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	Low	0.551	ng/dl	Method: CLIA 0.8-1.7

Primary Hypothyroidism

T3 testing rarely is helpful in the hypothyroid patient, since it is the last test to become abnormal. Patients can be severely hypothyroid with a high TSH and low FT4 but have a normal T3.

Gender: Female

Age: 53

Lab code: T4453

1

Hormones

Test	Flag	Result	Units	Reference Range
T.S.H (CLIA)		1.53	mIU/L	Method: CLIA-2 Midgestation fetus : 0.7 - 11 Term infant : 1.3 - 19 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	Low	0.745	ng/dl	Method: CLIA 0.8-1.7

Gender: Female (pregnant)

Age: 25

Lab code: S6467

Hormones

2

25-OH Cholecalciferol Vit.D3(CLIA)	20.8		ng/ml	CLIA Deficiency : <10 Insufficiency : 10-30 Sufficiency : 30-100 Toxicity : >100 14 years : 0.3-5.0 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
TSH(CLIA)	2.38		mIU/L	Pregnancy: 1st trim.: 0.3-4.5 2nd trms:0.5-4.6 3rd trms:0.8-5.2
Free T4 (CLIA)	L 0.557		ng/dl	0.8-1.7

Gender: Female

Age: 24

Lab code: T4305

3

Hormones

Test	Flag	Result	Units	Reference Range
T.S.H (CLIA)		0.347	mIU/L	Method: CLIA-2 Midgestation fetus : 0.7 - 11 Term infant : 1.3 - 19 3 days : 1.1 - 17 10 weeks : 0.6 - 10 14 months : 0.4 - 7.0 5 years : 0.4 - 6.0 14 years : 0.3 - 5.0 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	Low	0.707	ng/dl	Method: CLIA 0.8-1.7

Causes:**Secondary hypothyroidism****Drug effects (T3, phenytoin, carbamazepine, rifampin)**

Condition	TSH	TT₄	FT₄	T₃	Tg	Comment
Pregnancy	N	I	N	I	I	
With hyperthyroidism	N	I	I	I	I	
With hypothyroidism	I	I	D	I	I	I T ₄ and T ₃ to normal range

Gender: Female

Age: 21

Lab code: 14285

Test Name	Result	Unit	Method	Reference Range
<i>Hormones</i>				
TSH(CLIA)	1.13	mIU/L	CLIA	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T3 (CLIA) :Rechecked on new sample.	L 2.15 #	Pg/ml		CLIA 2.2-4.2
Free T4 (CLIA)	0.855	ng/dl		CLIA 0.8-1.7

fetoplacental and uterine D3 activity
increase dramatically during pregnancy
this may be important in hypothyroid
pregnant women

Gender: Female

Age: 24

Lab code: T6622

Blood Biochemistry

Test	Flag	Result	Units	Reference Range
Fasting Blood Sugar		87	mg/dl	Method: G - Oxidase (2) Child : 60-110 Adult : 74-106 >60 y : 82-115 >90 y : 75-121

Hormones

Test	Flag	Result	Units	Reference Range
T4(CLIA)		6.04	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		96.8	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	High	6.26	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	Low	0.705	ng/dl	Method: CLIA 0.8-1.7

Insufficient T4 therapy

(In subclinical hypothyroidism TSH is high and other thyroid test is normal)

Gender: Female

Age: 26

Lab code: T6836

Hormones		1			
Test	Flag	Result	Units	Reference Range	
T.S.H (CLIA)	High	5.28	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5	
Free T4 (CLIA)	Low	0.789	ng/dl	Method: CLIA 0.8-1.7	

Gender: Female

Age: 18

Lab code: T9771

Hormones		2			
Test	Flag	Result	Units	Reference Range	
T4(CLIA)		4.78	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3	
T3 (CLIA)		81.1	ng/dl	Method: CLIA 76.3-220.8	
T.S.H (CLIA)	High	95.1	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5	

Primary hypothyroidism

Drug effects (iodine, lithium, antithyroid drugs, amiodarone)

Insufficient T4 therapy for hypothyroidism

Gender: Female

Age: 30

Lab code: T8228

Hormones

Test	Flag	Result	Units	Reference Range
T4(CLIA)		9.33	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		108	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	High	6.98	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)		0.894	ng/dl	Method: CLIA 0.8-1.7

Typical subclinical hypothyroidism

Gender: Male

Age: 34

Lab code: T8331

Hormones

Test	Flag	Result	Units	Reference Range
T4(CLIA)		11.77	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		159	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	Low	0.044	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	High	1.77	ng/dl	Method: CLIA 0.8-1.7

If assume FT4 and tT4 are both normal → subclinical hyperthyroidism

If assume FT4 and tT4 are high → primary hyperthyroidism

Gender: Female

Age: 54

Lab code: U1170

Hormones

Test	Flag	Result	Units	Reference Range
T4(CLIA)	High	13.47	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		117	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	Low	0.049	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	High	1.82	ng/dl	Method: CLIA 0.8-1.7

Hyperthyroidism

Gender: Female

Age: 32

Lab code: 1470

Test Name	Result	Unit	Method	Reference Range
Immunology				
Thyroid Peroxidase (IgG)	H 227.9	IU/ml		CLIA 1 - 16
Hormones				
TSH(CLIA)	H 7.41	mIU/L	CLIA	CLIA Midgestation fetus : 0.7 Term infant : 1.3 - 19 3 days : 1.1 - 17 10 weeks : 0.6 - 10 14 months : 0.4 - 7.0 5 years : 0.4 - 6.0 14 years : 0.3 - 5.0 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	L 0.681	ng/dl		CLIA 0.8-1.7

Autoimmune hypothyroidism

Gender: Female

Age: 46

Lab code: 1892

Immunology

Thyroid Peroxidase (IgG)	H	49.13	IU/ml	CLIA 1 - 16
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Hormones

T4(CLIA)	H	14.07 *	µg/dl	CLIA Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		90.0 	ng/dl	CLIA 76.3-220.8
TSH(CLIA)	L	0.211	mIU/L	CLIA Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	H	1.9 *	ng/dl	CLIA 0.8-1.7

Hashimoto taking Levothyroxine



Gender: Female

Age: 20

Lab code: 24178

Immunology

Thyroid Peroxidase (IgG)	H	595.8	IU/ml	CLIA	1 - 16
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Hormones

T4(CLIA)	H	25.49	µg/dl	CLIA	Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)	H	339	ng/dl	CLIA	76.3-220.8
TSH(CLIA)	L	0.149	mIU/L	CLIA	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5 Pregnancy: 1st trim.: 0.3-4.5 2nd tms:0.5-4.6 3rd tms:0.8-5.2
Free T4 (CLIA)	H	4.17	ng/dl	ECLIA	Non pregnant F: 0.8-1.8 Pregnancy:1st trimester: 0.7-2.0 2nd & 3rd trimester: 0.5-1.6

Hashimoto taking Levothyroxine

Gender: Female

Age: 35

Lab code: X2495

Hormones

Test	Flag	Result	Units	Reference Range
25- OH Cholecalciferol Vit D		4.18	ng/ml	Method: CLIA Deficiency : <10 Insufficiency : 10-30 Sufficiency : 30-100 Toxicity : >100
Cortisol (8 Am)		4.22 *	micg/dl	Method: CLIA Morning : 4.5-24 Evening : 1.8-6.5
IGF1*		147.2	ng/ml	Method: CLIA 21-24 y/ F: 149-332, M: 188-400 25-39 y/ F: 108-247, M: 96-228 40-54 y/ F: 93-245, M: 88-210 >55 y/ F: 54-204, M: 55-186
T4(CLIA)		8.43	Micg/dl	Method: CLIA-2 Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)		142	ng/dl	Method: CLIA 76.3-220.8
T.S.H (CLIA)	High	7.36	mIU/L	Method: CLIA-2 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	Low	0.775	ng/dl	Method: CLIA 0.8-1.7
Prolactin (CLIA)	High	880.7	mIU/ml	Method: CLIA Male : 87-392 Female : -In reproductive age : 132-498 -postmenopausal : 90-392

Gender: Female

Age: 18

Lab code: F1267

Test Name	Result	Unit	Method	Reference Range
Immunology				
Thyroid Peroxidase (IgG)	H 102.4	IU/ml		CLIA 1 - 16
Hormones				
TSH(CLIA)	L 0.032	mIU/L	CLIA	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5 Pregnancy: 1st trim.: 0.3-4.5 2nd tms:0.5-4.6 3rd tms:0.8-5.2
Free T3 (CLIA)	H 4.50 *	Pg/ml		CLIA 2.2-4.2
Free T4 (CLIA)	1.66 *	ng/dl	CLIA	0.8-1.7

T3 is measured for evaluation of hyperthyroidism

T3 is measured for monitoring T4 replacement therapy specially when FT4 is borderline elevated.

ATA:

In some individuals with a low TSH, only the T3 is elevated and the FT4 is normal.

Gender: Male

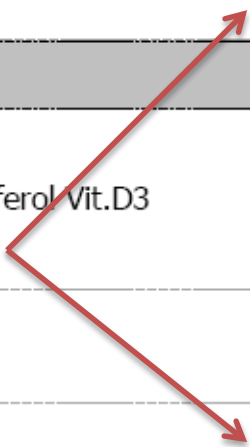
Age: 7 months

Lab code: 13867

Test Name	Result	Unit	Method	Reference Range
Biochemistry				
Calcium	9.1			Serum or Plasma : 8.6-10.3
Phosphorus inorganic	4.3			Newborn : 1 - 30 d : 3.9 - 7.7 1 - 12 m : 3.5 - 6.6
Alkaline Phosphatase	L 127			Children : 1 - 12 y : 3.1 - 5.7 Female : 64 - 306 Male : 80 - 306 <15 y : 180 - 1200
Hormones				
25-OH Cholecalciferol Vit.D3	34.5	ng/ml		CLIA Deficiency : <10 Insufficiency : 10-30 Sufficiency : 30-100 Toxicity : >100
T4(CLIA)	5.59	µg/dl		CLIA Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)	L 57.3	ng/dl		CLIA 76.3-220.8 Midgestation fetus : 0.7 - 11 Term infant : 1.3 - 19 3 days : 1.1 - 17 10 weeks : 0.6 - 10 14 months : 0.4 - 7.0
TSH(CLIA)	1.29	mIU/L	CLIA	5 years : 0.4 - 6.0 14 years : 0.3 - 5.0 Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5
Free T4 (CLIA)	1.07	ng/dl		CLIA 0.8-1.7

**Low bone turnover:
Hypothyroidism
Vitamin C deficiency
Folic acid deficiency.
Malnutrition with low protein**

**Low T3
Syndrome
as result of
starvation**



Gender: Female

Age: 21

Lab code: 31063

Hematology

Complete Blood Count H*1

W.B.C	7.42		10 ³ /mm	>12 yrs: 4.5 - 10.5
R.B.C	L 3.92		10 ⁶ /mm	Adult Males: 4.7-6.1 Females: 4.2-5.4
Hemoglobin	12.7		g/dl	Females: 12-16 Pregnancy: Decreased
Hematocrit	37.7		%	Females: 37-48 Pregnancy: Decreased
M.C.V	96.17		FL	10-17 yrs: 78-95 >18yrs: 78-100
M.C.H	H 32.40		pg	10-17 yrs: 26-32 >18yrs: 27-31
M.C.H.C	H 33.69		gr/dl	10-17 yrs: 26-32 >18 yrs: 27-31
RDW	H 14.3		%	11.5-14.0
Platelets	255		10 ³ /mm	150 - 450
Neutrophil%	53.9		%	40-60
Lymphocyte%	35.3		%	20 - 40
Monocyte%	H 8.9		%	2.0 - 8.0
Eosinophil%	1.5		%	1-4
Basophil%	0.4		%	0.5 - 1.0
DF (England)	25.35			>0 : IDA or Normal Patient <0 : Minor Thalassemia
DF (Mentzer)	24.53			>14 : IDA or Normal Patients <14 : Minor Thalassemia



Test Name	Result	Unit	Method	Reference Range
Hormones				
T4(CLIA)	L 2.96	µg/dl		CLIA Adult : 4.5 - 12.6 Child : 5.5-14.3
T3 (CLIA)	105	ng/dl		CLIA 76.3-220.8
TSH(CLIA)	H >100	mIU/L	CLIA	Adult : 0.3 - 4.0 >55 yrs : 0.5-8.5 Pregnancy: 1st trim.: 0.3-4.5 2nd tms:0.5-4.6 3rd tms:0.8-5.2
FSH (CLIA)	5.46	mIU/ml	CLIA	Men : 1.3-11.8 Women : -Follicular : 3.5-9.2 -Periovulatory : 4.7-25.9 -Luteal : 1.7-5.6
LH (CLIA)	8.93	mIU/ml		CLIA Men : 2.8-6.8 Women : - Follicular : 1.9-9.2 - periovulatory : 6.1-49.1 - Luteal : 1.3-10.8
Prolactin (CLIA)	H 545.5	mIU/ml		CLIA Male : 87-392 Female : -In reproductive age : 132-498
Biochemistry				
Fasting Blood Sugar	85	mg/dl		Child : 60-110 Adult : 74-106 >60 y : 82-115 >90 y : 75-121

Anemia may be related to hypothyroidism