NAME	**Mrs. TRIPTA DEVI**	**PATIENT ID**	132875
AGE/ GENDER	60 YRS/FEMALE	**LAB ID**	**071711210001**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:22 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	KOS DIAGNOSTIC LAB (AMBALA CANTT)	**REPORTING DATE**	21/Nov/2017 07:36PM

Test Name	Value	Unit	Reference Range

ENDOCRINOLOGY

THYROID FUNCTION TEST - TOTAL

TRIIODOTHYRONINE (T3)	1.121	ng/mL	0.69 - 2.15
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROXINE (T4)	6.010	µgm/dL	5.10 - 14.10
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROID STIMULATING HORMONE (TSH)	**5.684^{H}**	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY),3rd GEN. ULTRASENSITIVE

INTERPRETATION:

NOTE:- TSH levels are subject to circadian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50%.Hence time of the day has influence on the measured serum TSH concentrations.TSH stimulates the production and secretion of the metabolically active hormones, thyroxine (T4)and trilodothyronine (T3).Failure at any level of regulation of the hypothalamic-pituitary-thyroid axis will result in either underproduction (hypothyroidism) or overproduction(hyperthyroidism) of T4 and/or T3.

CLINICAL CONDITION	T3	T4	TSH
Primary Hypothyroidism:	Reduced	Reduced	Increased (Significantly)
Subclinical Hypothyroidism:	Normal or Low Normal	Normal or Low Normal	High
Primary Hyperthyroidism:	Increased	Increased	Reduced (at times undetectable)
Subclinical Hyperthyroidism:	Normal or High Normal	Normal or High Normal	Reduced

LIMITATIONS:-

1. T3 and T4 circulates in reversibly bound form with Thyroid binding globulins (TBG),and to a lesser extent albumin and Thyroid binding Pre Albumin so conditions in which TBG and protein levels alter such as pregnancy, excess estrogens, androgens, anabolic steroids and glucocorticoids may falsely affect the T3 and T4 levels and may cause false thyroid values for thyroid function tests.
2. Normal levels of T4 can also be seen in Hyperthyroid patients with :T3 Thyrotoxicosis, Decreased binding capacity due to hypoproteinemia or ingestion of certain drugs (eg: phenytoin , salicylates).
3. Serum T4 levles in neonates and infants are higher than values in the normal adult , due to the increased concentration of TBG in neonate serum.
4. TSH may be normal in central hypothyroidism , recent rapid correction of hyperthyroidism or hypothroidism , pregnancy , phenytoin therapy.

TRIIODOTHYRONINE (T3)		THYROXINE (T4)		THYROID STIMULATING HORMONE (TSH)	
Age	**Refferance Range (ng/mL)**	**Age**	**Refferance Range (µg/dL)**	**Age**	**Reference Range (µIU/mL)**
0 - 5 Days	**0.73 - 2.88**	**0 - 5 days**	**5.00 - 22.60**	**0 - 5 Days**	**0.70 - 15.20**
6 Days - 2 Months	**0.80 - 2.75**	**6 days - 2 Months**	**5.40 - 17.00**	**6 Days - 2 Months**	**0.70 – 11.00**
3 - 11 Months	**0.86 - -2.69**	**3 - 11 Months**	**5.70 - 16.00**	**3 Days – 11 Months**	**0.70 – 8.40**
1- 5 Years	**0.92 - 2.48**	**1 - 5 Years**	**6.00 - 14.70**	**1 – 5 Years**	**0.70 – 7.00**
6 - 10 Years	**0.92 - 2.31**	**6 - 10 years**	**6.00 - 13.80**	**6 – 10 Years**	**0.60 – 4.80**
11- 19 Years	**0.91 - 2.18**	**11 - 19 Years**	**5.90 - 13.20**	**11 – 15 Years**	**0.50 – 4.70**
> 20 years (Adults)	**0.69 - 2.15**	**> 20 Years (Adults)**	**5.10 - 14.10**	**> 20 Years (Adults)**	**0.27 – 4.70**

NAME	**Mrs. TRIPTA DEVI**	**PATIENT ID**	132875
AGE/ GENDER	60 YRS/FEMALE	**LAB ID**	**071711210001**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:22 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	KOS DIAGNOSTIC LAB (AMBALA CANTT)	**REPORTING DATE**	21/Nov/2017 07:36PM

Test Name	Value	Unit	Reference Range

INCREASED TSH LEVELS:

1.Primary or untreated hypothyroidism may vary from 3 times to more than 100 times normal depending upon degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis
4.DRUGS: Amphetamines, idonie containing agents & dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge

DECREASED TSH LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st

*** End Of Report ***

DR.VINAY CHOPRA
CONSULTANT PATHOLOGIST
MBBS, MD (PATHOLOGY & MICROBIOLOGY)

DR.YUGAM CHOPRA
CONSULTANT PATHOLOGIST
MBBS , MD (PATHOLOGY)

NAME	**Mrs. SURJEET KAUR**	**PATIENT ID**	132877
AGE/ GENDER	. YRS/FEMALE	**LAB ID**	**071711210002**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:23 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	KOS DIAGNOSTIC LAB (AMBALA CANTT)	**REPORTING DATE**	21/Nov/2017 07:34PM

Test Name	Value	Unit	Reference Range

INSULIN FASTING (F)

INSULIN FASTING (F)	14.56	µIU/ml	4.03 - 23.46

by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)

INTERPRETATION:-

1.Insulin is a hormone produced by the beta cells of the pancreas. It regulates the uptake and utilization of glucose and is also involved in protein synthesis and triglyceride storage.
2.Type 1 diabets (insulin-dependent diabetes) is caused by insulin deficiency due to destruction of insulin producing pancreatic islets (beta) cells.
3.Type 2 diabetes (noninsulin dependent diabetes) is characterized by resistance to the action of insulin (insulin resistance).
4.The test is useful for management of diabetes mellitus and for diagnoses of insulinomas, when used in conjunction with proinsulin and C-peptide measurements.

NOTE:

1.No standard referance range has yet been established for INSULIN POST-PRANDIAL (PP) in indian population, therefore same could not be provided along with test. However various studies done on several populations mention that the range of INSULIN PP can vary somewhere from 5-79 mIU/L which can be used for clinical purpose.

2.This assay has 100% cross-reactivity with recombinant human insulin (Novolin R and Novolin N). It does not recognize other commonly used analogues of injectable insulin (ie, insulin lispro, insulin aspart, and insulin glargine).

INTERPRETATIVE GUIDE:

1.During prolonged fasting, when the patient's glucose level is reduced to <40 mg/dL, elevated insulin level plus elevated levels of proinsulin and C-peptide suggest insulinomaS.
2.Insulin levels generally decline in patients with type 1 diabetes mellitus.
3.In the early stage of type 2 diabetes, insulin levels are either normal or elevated. In the late stage of type 2 diabetes, insulin levels decline.
4.In normal individuals, insulin levels parallel blood glucose levels.
5.Patients on insulin therapy may develop anti-insulin antibodies. These antibodies may interfere in the assay system, causing inaccurate results. In such individuals, measurement of free insulin FINS / Insulin, Free, Serum should be performed.

*** End Of Report ***

DR.VINAY CHOPRA
CONSULTANT PATHOLOGIST
MBBS, MD (PATHOLOGY & MICROBIOLOGY)

DR.YUGAM CHOPRA
CONSULTANT PATHOLOGIST
MBBS , MD (PATHOLOGY)

NAME	**Mrs. RAHISHA**	**PATIENT ID**	132879
AGE/ GENDER	27 YRS/FEMALE	**LAB ID**	**071711210004**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:25 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:31PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	2.71	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. AMANDEEP KAUR**	**PATIENT ID**	132880
AGE/ GENDER	27 YRS/FEMALE	**LAB ID**	**071711210005**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:26 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:27PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	2.35	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. VANDANA**	**PATIENT ID**	132881
AGE/ GENDER	25 YRS/FEMALE	**LAB ID**	**071711210006**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:26 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:33PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	2.03	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. KULJINDER KAUR**	**PATIENT ID**	132882
AGE/ GENDER	21 YRS/FEMALE	**LAB ID**	**071711210007**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:27 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:29PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	1.41	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. GURDEEP KAUR**	**PATIENT ID**	132883
AGE/ GENDER	27 YRS/FEMALE	**LAB ID**	**071711210008**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:27 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:27PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	2.12	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. RANJEET KAUR**	**PATIENT ID**	132884
AGE/ GENDER	32 YRS/FEMALE	**LAB ID**	**071711210009**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:27 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:31PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	0.37	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. RUPA RANI**	**PATIENT ID**	132885
AGE/ GENDER	22 YRS/FEMALE	**LAB ID**	**071711210010**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:28 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:32PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	1.19	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. SANGITA**	**PATIENT ID**	132886
AGE/ GENDER	25 YRS/FEMALE	**LAB ID**	**071711210011**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:28 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:32PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	3.31	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. NEELAM**	**PATIENT ID**	132887
AGE/ GENDER	26 YRS/FEMALE	**LAB ID**	**071711210012**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:29 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	NEW SHIRDI LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:31PM

Test Name	Value	Unit	Reference Range

THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH)	4.43	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY), 3rd GEN. ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (µIU/mL)
0 – 5 DAYS	0.70 – 15.20
6 Days – 2 Months	0.70 – 11.00
3 – 11 Months	0.70 – 8.40
1 – 5 Years	0.70 – 7.00
6 – 10 Years	0.60 – 4.80
11 - 15	0.50 – 4.70
> 20 Years (Adults)	0.27 – 4.70
PREGNANCY	
1st Trimester	0.30 - 4.50
2nd Trimester	0.50 - 4.60
3rd Trimester	0.80 - 5.20

NOTE:-*TSH levels are subjected to circardian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50 %. Hence time of the day has influence on the measured serum TSH concentration.*

USE:- TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

1.Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis.
4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st Trimester

LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.
2.Autoimmune disorders may produce spurious results.

*** End Of Report ***

NAME	**Mrs. KAMLESH KAUR**	**PATIENT ID**	132888
AGE/ GENDER	34 YRS/FEMALE	**LAB ID**	**071711210013**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:30 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	BHANOT LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:30PM

Test Name	Value	Unit	Reference Range

THYROID FUNCTION TEST - TOTAL

TRIIODOTHYRONINE (T3)	1.35	ng/mL	0.69 - 2.15
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROXINE (T4)	13.65	µgm/dL	5.10 - 14.10
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROID STIMULATING HORMONE (TSH)	2.30	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY),3rd GEN. ULTRASENSITIVE

INTERPRETATION:

NOTE:- TSH levels are subject to circadian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50%.Hence time of the day has influence on the measured serum TSH concentrations.TSH stimulates the production and secretion of the metabolically active hormones, thyroxine (T4)and trilodothyronine (T3).Failure at any level of regulation of the hypothalamic-pituitary-thyroid axis will result in either underproduction (hypothyroidism) or overproduction(hyperthyroidism) of T4 and/or T3.

CLINICAL CONDITION	T3	T4	TSH
Primary Hypothyroidism:	Reduced	Reduced	Increased (Significantly)
Subclinical Hypothyroidism:	Normal or Low Normal	Normal or Low Normal	High
Primary Hyperthyroidism:	Increased	Increased	Reduced (at times undetectable)
Subclinical Hyperthyroidism:	Normal or High Normal	Normal or High Normal	Reduced

LIMITATIONS:-

1. T3 and T4 circulates in reversibly bound form with Thyroid binding globulins (TBG),and to a lesser extent albumin and Thyroid binding Pre Albumin so conditions in which TBG and protein levels alter such as pregnancy, excess estrogens, androgens, anabolic steroids and glucocorticoids may falsely affect the T3 and T4 levels and may cause false thyroid values for thyroid function tests.
2. Normal levels of T4 can also be seen in Hyperthyroid patients with :T3 Thyrotoxicosis, Decreased binding capacity due to hypoproteinemia or ingestion of certain drugs (eg: phenytoin , salicylates).
3. Serum T4 levles in neonates and infants are higher than values in the normal adult , due to the increased concentration of TBG in neonate serum.
4. TSH may be normal in central hypothyroidism , recent rapid correction of hyperthyroidism or hypothroidism , pregnancy , phenytoin therapy.

TRIIODOTHYRONINE (T3)		THYROXINE (T4)		THYROID STIMULATING HORMONE (TSH)	
Age	**Refferance Range (ng/mL)**	**Age**	**Refferance Range (µg/dL)**	**Age**	**Reference Range (µIU/mL)**
0 - 5 Days	**0.73 - 2.88**	**0 - 5 days**	**5.00 - 22.60**	**0 - 5 Days**	**0.70 - 15.20**
6 Days - 2 Months	**0.80 - 2.75**	**6 days - 2 Months**	**5.40 - 17.00**	**6 Days - 2 Months**	**0.70 – 11.00**
3 - 11 Months	**0.86 - -2.69**	**3 - 11 Months**	**5.70 - 16.00**	**3 Days – 11 Months**	**0.70 – 8.40**
1- 5 Years	**0.92 - 2.48**	**1 - 5 Years**	**6.00 - 14.70**	**1 – 5 Years**	**0.70 – 7.00**
6 - 10 Years	**0.92 - 2.31**	**6 - 10 years**	**6.00 - 13.80**	**6 – 10 Years**	**0.60 – 4.80**
11- 19 Years	**0.91 - 2.18**	**11 - 19 Years**	**5.90 - 13.20**	**11 – 15 Years**	**0.50 – 4.70**
> 20 years (Adults)	**0.69 - 2.15**	**> 20 Years (Adults)**	**5.10 - 14.10**	**> 20 Years (Adults)**	**0.27 – 4.70**

INCREASED TSH LEVELS:

NAME	**Mrs. KAMLESH KAUR**	**PATIENT ID**	132888
AGE/ GENDER	34 YRS/FEMALE	**LAB ID**	**071711210013**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:30 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	BHANOT LAB (ROPAR)	**REPORTING DATE**	21/Nov/2017 07:30PM

Test Name	Value	Unit	Reference Range

1.Primary or untreated hypothyroidism may vary from 3 times to more than 100 times normal depending upon degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis
4.DRUGS: Amphetamines, idonie containing agents & dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge

DECREASED TSH LEVELS:
1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st

*** End Of Report ***

DR.VINAY CHOPRA
CONSULTANT PATHOLOGIST
MBBS, MD (PATHOLOGY & MICROBIOLOGY)

DR.YUGAM CHOPRA
CONSULTANT PATHOLOGIST
MBBS , MD (PATHOLOGY)

NAME	**Mrs. KAMALJEET**	**PATIENT ID**	132889
AGE/ GENDER	27 YRS/FEMALE	**LAB ID**	**071711210014**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:31 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	KOS DIAGNOSTIC LAB (AMBALA CANTT)	**REPORTING DATE**	21/Nov/2017 07:31PM

THYROID FUNCTION TEST - TOTAL

Test Name	Value	Unit	Reference Range
TRIIODOTHYRONINE (T3)	0.87	ng/mL	0.69 - 2.15
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROXINE (T4)	8.08	µgm/dL	5.10 - 14.10
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROID STIMULATING HORMONE (TSH)	3.60	µIU/mL	0.27 - 4.70

by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY),3rd GEN. ULTRASENSITIVE

INTERPRETATION:

NOTE:- TSH levels are subject to circadian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50%.Hence time of the day has influence on the measured serum TSH concentrations.TSH stimulates the production and secretion of the metabolically active hormones, thyroxine (T4)and trilodothyronine (T3).Failure at any level of regulation of the hypothalamic-pituitary-thyroid axis will result in either underproduction (hypothyroidism) or overproduction(hyperthyroidism) of T4 and/or T3.

CLINICAL CONDITION	T3	T4	TSH
Primary Hypothyroidism:	Reduced	Reduced	Increased (Significantly)
Subclinical Hypothyroidism:	Normal or Low Normal	Normal or Low Normal	High
Primary Hyperthyroidism:	Increased	Increased	Reduced (at times undetectable)
Subclinical Hyperthyroidism:	Normal or High Normal	Normal or High Normal	Reduced

LIMITATIONS:-

1. T3 and T4 circulates in reversibly bound form with Thyroid binding globulins (TBG),and to a lesser extent albumin and Thyroid binding Pre Albumin so conditions in which TBG and protein levels alter such as pregnancy, excess estrogens, androgens, anabolic steroids and glucocorticoids may falsely affect the T3 and T4 levels and may cause false thyroid values for thyroid function tests.
2. Normal levels of T4 can also be seen in Hyperthyroid patients with :T3 Thyrotoxicosis, Decreased binding capacity due to hypoproteinemia or ingestion of certain drugs (eg: phenytoin , salicylates).
3. Serum T4 levles in neonates and infants are higher than values in the normal adult , due to the increased concentration of TBG in neonate serum.
4. TSH may be normal in central hypothyroidism , recent rapid correction of hyperthyroidism or hypothroidism , pregnancy , phenytoin therapy.

TRIIODOTHYRONINE (T3)		THYROXINE (T4)		THYROID STIMULATING HORMONE (TSH)	
Age	**Refferance Range (ng/mL)**	**Age**	**Refferance Range (µg/dL)**	**Age**	**Reference Range (µIU/mL)**
0 - 5 Days	**0.73 - 2.88**	**0 - 5 days**	**5.00 - 22.60**	**0 - 5 Days**	**0.70 - 15.20**
6 Days - 2 Months	**0.80 - 2.75**	**6 days - 2 Months**	**5.40 - 17.00**	**6 Days - 2 Months**	**0.70 – 11.00**
3 - 11 Months	**0.86 - -2.69**	**3 - 11 Months**	**5.70 - 16.00**	**3 Days – 11 Months**	**0.70 – 8.40**
1- 5 Years	**0.92 - 2.48**	**1 - 5 Years**	**6.00 - 14.70**	**1 – 5 Years**	**0.70 – 7.00**
6 - 10 Years	**0.92 - 2.31**	**6 - 10 years**	**6.00 - 13.80**	**6 – 10 Years**	**0.60 – 4.80**
11- 19 Years	**0.91 - 2.18**	**11 - 19 Years**	**5.90 - 13.20**	**11 – 15 Years**	**0.50 – 4.70**
> 20 years (Adults)	**0.69 - 2.15**	**> 20 Years (Adults)**	**5.10 - 14.10**	**> 20 Years (Adults)**	**0.27 – 4.70**

INCREASED TSH LEVELS:

NAME	**Mrs. KAMALJEET**	**PATIENT ID**	132889
AGE/ GENDER	27 YRS/FEMALE	**LAB ID**	**071711210014**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:31 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	KOS DIAGNOSTIC LAB (AMBALA CANTT)	**REPORTING DATE**	21/Nov/2017 07:31PM

Test Name	Value	Unit	Reference Range

1.Primary or untreated hypothyroidism may vary from 3 times to more than 100 times normal depending upon degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis
4.DRUGS: Amphetamines, idonie containing agents & dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge

DECREASED TSH LEVELS:
1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st

*** End Of Report ***

DR.VINAY CHOPRA
CONSULTANT PATHOLOGIST
MBBS, MD (PATHOLOGY & MICROBIOLOGY)

DR.YUGAM CHOPRA
CONSULTANT PATHOLOGIST
MBBS , MD (PATHOLOGY)

NAME	**Mrs. MEENA**	**PATIENT ID**	132890
AGE/ GENDER	30 YRS/FEMALE	**LAB ID**	**071711210015**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:34 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	SWASTIK LAB (RAJPURA)	**REPORTING DATE**	21/Nov/2017 07:30PM

THYROID FUNCTION TEST - TOTAL

Test Name	Value	Unit	Reference Range
TRIIODOTHYRONINE (T3)	1.078	ng/mL	0.69 - 2.15
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROXINE (T4)	9.671	µgm/dL	5.10 - 14.10
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY)			
THYROID STIMULATING HORMONE (TSH)	**5.259^{H}**	µIU/mL	0.27 - 4.70
by ECLIA (ELECTROCHEMILUMINESCENCE IMMUNOASSAY),3rd GEN. ULTRASENSITIVE			

INTERPRETATION:

NOTE:- TSH levels are subject to circadian variation, reaching peak levels between 2-4 a.m and at a minimum between 6-10 pm. The variation is of the order of 50%.Hence time of the day has influence on the measured serum TSH concentrations.TSH stimulates the production and secretion of the metabolically active hormones, thyroxine (T4)and trilodothyronine (T3).Failure at any level of regulation of the hypothalamic-pituitary-thyroid axis will result in either underproduction (hypothyroidism) or overproduction(hyperthyroidism) of T4 and/or T3.

CLINICAL CONDITION	T3	T4	TSH
Primary Hypothyroidism:	Reduced	Reduced	Increased (Significantly)
Subclinical Hypothyroidism:	Normal or Low Normal	Normal or Low Normal	High
Primary Hyperthyroidism:	Increased	Increased	Reduced (at times undetectable)
Subclinical Hyperthyroidism:	Normal or High Normal	Normal or High Normal	Reduced

LIMITATIONS:-

1. T3 and T4 circulates in reversibly bound form with Thyroid binding globulins (TBG),and to a lesser extent albumin and Thyroid binding Pre Albumin so conditions in which TBG and protein levels alter such as pregnancy, excess estrogens, androgens, anabolic steroids and glucocorticoids may falsely affect the T3 and T4 levels and may cause false thyroid values for thyroid function tests.
2. Normal levels of T4 can also be seen in Hyperthyroid patients with :T3 Thyrotoxicosis, Decreased binding capacity due to hypoproteinemia or ingestion of certain drugs (eg: phenytoin , salicylates).
3. Serum T4 levles in neonates and infants are higher than values in the normal adult , due to the increased concentration of TBG in neonate serum.
4. TSH may be normal in central hypothyroidism , recent rapid correction of hyperthyroidism or hypothroidism , pregnancy , phenytoin therapy.

TRIIODOTHYRONINE (T3)		THYROXINE (T4)		THYROID STIMULATING HORMONE (TSH)	
Age	**Refferance Range (ng/mL)**	**Age**	**Refferance Range (µg/dL)**	**Age**	**Reference Range (µIU/mL)**
0 - 5 Days	**0.73 - 2.88**	**0 - 5 days**	**5.00 - 22.60**	**0 - 5 Days**	**0.70 - 15.20**
6 Days - 2 Months	**0.80 - 2.75**	**6 days - 2 Months**	**5.40 - 17.00**	**6 Days - 2 Months**	**0.70 – 11.00**
3 - 11 Months	**0.86 - -2.69**	**3 - 11 Months**	**5.70 - 16.00**	**3 Days – 11 Months**	**0.70 – 8.40**
1- 5 Years	**0.92 - 2.48**	**1 - 5 Years**	**6.00 - 14.70**	**1 – 5 Years**	**0.70 – 7.00**
6 - 10 Years	**0.92 - 2.31**	**6 - 10 years**	**6.00 - 13.80**	**6 – 10 Years**	**0.60 – 4.80**
11- 19 Years	**0.91 - 2.18**	**11 - 19 Years**	**5.90 - 13.20**	**11 – 15 Years**	**0.50 – 4.70**
> 20 years (Adults)	**0.69 - 2.15**	**> 20 Years (Adults)**	**5.10 - 14.10**	**> 20 Years (Adults)**	**0.27 – 4.70**

INCREASED TSH LEVELS:

NAME	**Mrs. MEENA**	**PATIENT ID**	132890
AGE/ GENDER	30 YRS/FEMALE	**LAB ID**	**071711210015**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:34 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	SWASTIK LAB (RAJPURA)	**REPORTING DATE**	21/Nov/2017 07:30PM

Test Name	Value	Unit	Reference Range

1.Primary or untreated hypothyroidism may vary from 3 times to more than 100 times normal depending upon degree of hypofunction.
2.Hypothyroid patients receiving insufficient thyroid replacement therapy.
3.Hashimotos thyroiditis
4.DRUGS: Amphetamines, idonie containing agents & dopamine antagonist.
5.Neonatal period, increase in 1st 2-3 days of life due to post-natal surge

DECREASED TSH LEVELS:
1.Toxic multi-nodular goitre & Thyroiditis.
2.Over replacement of thyroid harmone in treatment of hypothyroidism.
3.Autonomously functioning Thyroid adenoma
4.Secondary pituatary or hypothalmic hypothyroidism
5.Acute psychiatric illness
6.Severe dehydration.
7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8.Pregnancy: 1st

FOLLICLE STIMULATING HORMONE (FSH)

FOLLICLE STIMULATING HORMONE (FSH)	5.74	mIU/ml

by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)

INTERPRETATION:

FEMALE:	
Follicular phase :	2 - 15 mIU/ml
Ovulatory phase :	2 -25 mIU/ml
Luteal Phase :	2 -12 mIU/ml
Menopausal :	>40 mIU/ml
Pregnancy :	0 - 12 mIU/ml
Primary ovarian failure :	40 - 150 mIU/ml
MALE:	2 - 15 mIU/ml

1.Gonadotropin-releasing hormone from the hypothalamus controls the secretion of the gonadotropins, follicle-stimulating hormone (FSH) and luteinizing hormone (LH) from the anterior pituitary.
2.The menstrual cycle is divided by a midcycle surge of both FSH and LH into a follicular phase and a luteal phase.
3.FSH appears to control gametogenesis in both males and females.

The test is useful in the following settings:
1.An adjunct in the evaluation of menstrual irregularities.
2.Evaluating patients with suspected hypogonadism.
3.Predicting ovulation
4.Evaluating infertility
5.Diagnosing pituitary disorders
6.In both males and females, primary hypogonadism results in an elevation of basal follicle-stimulating hormone (FSH) and luteinizing hormone (LH) levels.

NAME	**Mrs. MEENA**	**PATIENT ID**	132890
AGE/ GENDER	30 YRS/FEMALE	**LAB ID**	**071711210015**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:34 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	SWASTIK LAB (RAJPURA)	**REPORTING DATE**	21/Nov/2017 07:30PM

Test Name	Value	Unit	Reference Range

FSH and LH LEVELS ELEVATED IN:
1.Primary gonadal failure
2.Complete testicular feminization syndrome.
3.Precocious puberty (either idiopathic or secondary to a central nervous system lesion)
4.Menopause (postmenopausal FSH levels are generally >40 IU/L)
5.Primary ovarian hypofunction in females
6.Primary hypogonadism in males

NOTE:
1.Normal or decreased FSH is seen in polycystic ovarian disease in females
2.FSH and LH are both decreased in failure of the pituitary or hypothalamus.

ESTRADIOL (E2)

ESTRADIOL (E2)	48.72	pg/mL

by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)

INTERPRETATION:-

	UNITS	RANGE
FEMALES:		
Follicular Phase	pg/mL	15.0 – 112.0
PreOvulatory Phase	pg/mL	136.0 – 251.0
Luteal Phase	pg/mL	48.0 – 172.0
Hormonnal Contraceptives	pg/mL	15.0 – 95.0
POST MENOPAUSAL:	pg/mL	10.0 – 66.0
PREGNANCY:		
1st Trimester (0 – 12 Weeks)	pg/mL	38.0 – 3175.0
2nd Trimester (13 – 28 Weeks)	pg/mL	678.0 – 16633.0
3rd Trimester (29 – 40 Weeks)	pg/mL	43.0 – 33781.0
MALES:	pg/mL	10.0 – 40.0

1.Estrogens are involved in development and maintenance of the female phenotype,germ cell maturation,and pregnancy.They also are important for many other,nongender-specific processes, including growth,nervous system maturation,bone metabolism/remodeling,and endothelial responsiveness.
2.E2 is produced primarily in ovaries and testes by aromatization of testosterone.
3.Small amounts are produced in the adrenal glands and some peripheral tissues,most notably fat.E2 levels in premenopausal women fluctuate during the menstrual cycle.
4.They are lowest during the early follicular phase. E2 levels then rise gradually until 2 to 3 days before ovulation, at which stage they start to increase much more rapidly and peak just before the ovulation-inducing luteinizing hormone (LH)/follicle stimulating hormone (FSH) surge at 5 to 10 times the early follicular levels.This is followed by a modest decline during the ovulatory phase.E2 levels then increase again gradually until the midpoint of the luteal phase and thereafter decline to trough,early follicular levels.

INDICATIONS FOR ASSAY: -

NAME	**Mrs. MEENA**	**PATIENT ID**	132890
AGE/ GENDER	30 YRS/FEMALE	**LAB ID**	**071711210015**
COLLECTION MODE		**REGISTRATION DATE**	21/Nov/2017 06:34 PM
COLLECTED BY		**COLLECTION DATE**	21/Nov/2017 07:26PM
REFERRING.Dr.	SWASTIK LAB (RAJPURA)	**REPORTING DATE**	21/Nov/2017 07:30PM

Test Name	Value	Unit	Reference Range

1.Evaluation of hypogonadism and oligo-amenorrhea in females.
2.Assessing ovarian status, including follicle development,for assisted reproduction protocols (eg, in vitro fertilization)
3.In conjunction with lutenizing hormone measurements,monitoring of estrogen replacement therapy in hypogonadal premenopausal women
4.Evaluation of feminization,including gynecomastia,in males.
5.Diagnosis of estrogen-producing neoplasms in males,and,to a lesser degree,females
6.As part of the diagnosis and work-up of precocious and delayed puberty in females,and,to a lesser degree, males
7.As part of the diagnosis and work-up of suspected disorders of sex steroid metabolism,eg:aromatase deficiency and 17 alpha-hydroxylase deficiency
8.As an adjunct to clinical assessment,imaging studies and bone mineral density measurement in the fracture risk assessment of postmenopausal women,and,to a lesser degree,older men
9.Monitoring low-dose female hormone replacement therapy in post-menopausal women
10.Monitoring antiestrogen therapy (eg, aromatase inhibitor therapy).

CAUSES FOR INCREASED E2 LEVELS:
1.High androgen levels caused by tumors or androgen therapy (medical or sport performance enhancing),with secondary elevations in E1 and E2 due to aromatization
2.Obesity with increased tissue production of E1
3.Decreased E1 and E2 clearance in liver disease
4.Estrogen producing tumors
5.Estrogen Ingestion

*** End Of Report ***

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