



**HAYL**

**Metabolic Health and Comorbidity  
Screening and Risk Assessment**

## Customer Details

Name	:	[REDACTED]	Date	:	09-08-2024 11:36 AM
Age / Gender	:	[REDACTED]	Customer ID	:	[REDACTED]
Email Address	:	[REDACTED]	Referred By	:	[REDACTED]

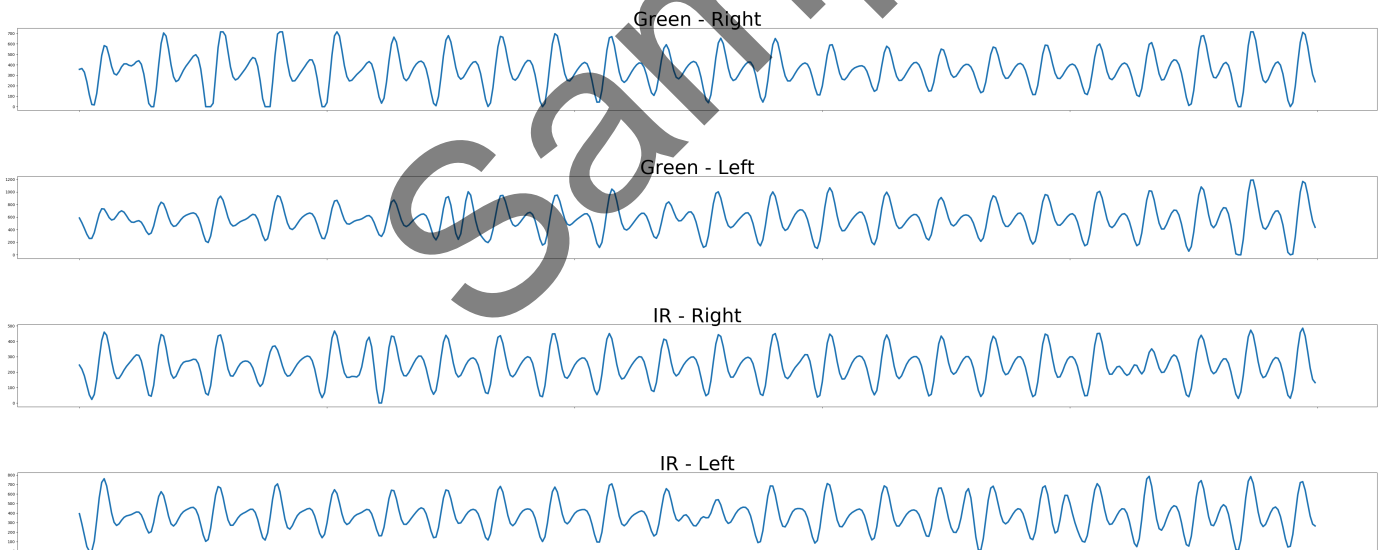
## Family History

Type 2 Diabetes	:	None
Hypertension	:	Mother
Brain Stroke	:	Siblings
Heart Attack	:	None

## Personal History

Known Type 2 Diabetic	:	No
Known Hypertension	:	No
Known Dyslipidemia	:	Yes
Other Conditions	:	Thyroid, Migraine, Brain Stroke, Tuberculosis, Kidney Diseases, Kidney Cancer

## Pulse signal information



Blood sugar and Type 2 diabetes metrics assess glucose metabolism and diabetes risk. They include the type 2 diabetes risk score, blood glucose level, and HbA1C (glycated hemoglobin). Monitoring these metrics helps identify individuals at risk of developing diabetes or those who need better blood sugar management.

Sr. No	Parameters	Values	Range	Reference
1	<b>Type 2 diabetes risk score</b>	5.8 / 10	Medium	0-1 is Normal 1-3 is Low 3 to 6 is Medium 6-10 is High
2	<b>Blood glucose level</b>	High (140 mg/dl and Above)	High	0-3 is Normal (Below 100 mg/dl) 3-5 is Elevated (100 - 140 mg/dl) 5-10 is High (140 mg/dl and Above)
3	<b>HbA1C (glycated hemoglobin)</b>	High (6.5 % and Above )	High	0-3 is Normal (Below 5.4 %) 3-5 is Elevated (5.4 - 6.5 %) 5-10 is High High (6.5 % and Above )

### Interpretation:

- Low risk: A low type 2 diabetes risk score indicates a lower likelihood of developing type 2 diabetes. Normal blood glucose levels and HbA1C values suggest well-managed blood sugar control.
- Medium risk: A medium type 2 diabetes risk score may indicate borderline or early signs of insulin resistance or impaired glucose metabolism.
- High risk: A high type 2 diabetes risk score indicates an increased likelihood of developing type 2 diabetes. Elevated blood glucose levels and HbA1C values may indicate prediabetes or diabetes.

### Recommended steps:

- Low risk: Maintain a healthy lifestyle with regular exercise, balanced nutrition, and weight management to continue minimizing diabetes risk.
- Medium risk: Implement lifestyle modifications such as increasing physical activity, adopting a balanced diet with controlled carbohydrate intake, and monitoring blood sugar levels regularly.
- High risk: Consult with a healthcare professional for further evaluation and guidance on lifestyle modifications, blood sugar monitoring, and potential treatment options to manage diabetes risk.

This section evaluates key metrics critical to assessing cardiovascular health, including systolic and diastolic blood pressure. Blood pressure measurements are paramount in identifying hypertension, which is a major risk factor for cardiovascular diseases.

Sr. No	Parameters	Values	Range	Reference
4	<b>Pulse rate</b>	72 / Per minute		NA
5	<b>Blood pressure (systolic and diastolic)</b>	135/90 mmHg and Above	High	Below 115/70 mmHg is Normal Between 115/70 and 125/80 mmHg is Low Between 125/80 and 135/90 mmHg is Medium 135/90 mmHg and Above is High
6	<b>Mean aretrial pressure</b>	Below 70 mmHg %	High	NA
7	<b>Hypertension risk score</b>	4.4 / 10	Medium	0-1 is Normal 1-3 is Low 3 to 6 is Medium 6-10 is High

### Interpretation:

- Low risk: Blood pressure within the normal range indicates well-managed cardiovascular health.
- Medium risk: Blood pressure readings that are borderline high suggest increased risk and may necessitate lifestyle adjustments.
- High risk: High blood pressure readings indicate possible hypertension, necessitating further medical evaluation and potential treatment.

### Recommended steps:

- Low risk: Continue maintaining a healthy lifestyle with regular physical activity and a balanced diet. Regular monitoring of blood pressure is advised to ensure it remains within a normal range.
- Medium risk: Lifestyle modifications such as reduced sodium intake, increased exercise, and stress management are recommended. Regular monitoring and consultations with healthcare providers are crucial.
- High risk: Immediate consultation with a healthcare provider is recommended to discuss possible interventions, which may include medication, to manage high blood pressure effectively.

This section assesses a range of metrics vital for understanding the cardiovascular system's health, encompassing arterial dynamics, heart functionality, and rhythmic stability. Evaluating these parameters provides comprehensive insights into an individual's cardiovascular risk and overall heart health.

## Arterial Health and Blood Flow Dynamics

Sr. No	Parameters	Values	Range	Reference
8	Systolic/Diastolic Amplitude	1.6		NA
9	Notch time (ECG's QT interval)	435.3		NA
10	Width at 50%	236		NA
11	Width at 50% / Systolic amplitude	0.16		NA

## Heart Function and Efficiency

Sr. No	Parameters	Values	Range	Reference
12	Total area	12201.2		NA
13	Total area / Systolic amplitude	0.35		NA
14	A1 area / systolic amplitude (ECG's S-wave amplitude in V1/v2 leads)	0.49		NA

## Heart Rhythm

Sr. No	Parameters	Values	Range	Reference
15	Systolic peak count	67		NA
16	Systolic p2p interval (ECG's R-R interval)	0.86		NA
17	Signal peak frequency	2.38		NA

## Interpretation:

- Arterial Health and Blood Flow Dynamics related metrics help evaluate arterial stiffness, blood flow velocity, and the responsiveness of blood vessels, offering insights into arterial health.
- Heart Function and Efficiency Measurements focus on the heart's pumping efficacy and the efficiency of blood circulation during each heartbeat.
- Heart Rhythm related metrics are crucial for monitoring the regularity and frequency of heartbeats, aiding in the detection of rhythmic abnormalities that could indicate underlying heart conditions.

## Recommended steps:

- Regular cardiovascular fitness activities, dietary adjustments to reduce arterial stiffness, and routine monitoring to detect any early signs of arterial health issues.
- Engage in cardiovascular strengthening exercises, follow a heart-healthy diet, and consult healthcare providers for periodic evaluations of heart function.
- Monitor heart rhythm regularly, avoid stimulants that could disrupt heart rhythm, and seek medical advice if irregularities are detected.

Overall metabolic health metrics provide a comprehensive assessment of metabolic function and general health status. They include the overall metabolic health index and anemia severity assessment. Monitoring these metrics helps evaluate metabolic health and detect conditions such as anemia or metabolic syndrome.

Sr. No	Parameters	Values	Range	Reference
18	<b>Dyslipidemia risk score</b>	Signal quality not sufficient	Signal quality not sufficient	0-1 is Normal 1-3 is Low 3 to 6 is Medium 6-10 is High
19	<b>Total cholesterol level</b>	Signal quality not sufficient	Signal quality not sufficient	Below 200 mg/dl is Normal Between 200 and 240 mg/dl is Low Between 240 and 280 mg/dl is Medium 280 mg/dl and Above is High
20	<b>Anemia severity</b>	Signal quality not sufficient	Signal quality not sufficient	0-3 is Normal (Hb - above 14 g/dl for Male, above 12 g/dl for Female) 3-4 is Mild (Hb - 12 - 14 g/dl for Male, 10 - 12 g/dl for Female) 4-10 is Moderate (Hb - Below 12 g/dl for Male, Below 10 g/dl for Female)
21	<b>Overall metabolic health score</b>	Signal quality not sufficient	Signal quality not sufficient	0-3 is RiskGroup 3 to 6 is Moderately Healthy 6-10 is Healthy

## Interpretation:

- Low Risk: Your overall metabolic health is within the normal range, indicating a healthy metabolism and general well-being.
- Medium Risk: Your overall metabolic health shows some deviations from the normal range, indicating potential areas for improvement or further monitoring.
- High Risk: Your overall metabolic health is significantly outside the normal range, suggesting the presence of metabolic disorders or health issues that require attention.

## Recommended steps:

- Low Risk: Maintain a balanced diet, engage in regular physical activity, and continue monitoring your metabolic health to sustain optimal well-being.
- Medium Risk: Consult with a healthcare professional to discuss lifestyle changes, dietary modifications, or additional medical tests that may be necessary to improve metabolic health.
- High Risk: Seek immediate medical attention and follow the advice of healthcare professionals to address underlying metabolic issues and prevent complications.

Respiratory and oxygenation metrics focus on breathing patterns and oxygen saturation levels in the blood. They include respiratory rate and blood oxygen concentration (SpO2 levels). These metrics help assess respiratory function and can identify conditions such as respiratory distress or hypoxemia (low oxygen levels).

Sr. No	Parameters	Values	Range	Reference
22	<b>Respiratory rate</b>	24 / Per minute	Normal	9-28 is Normal, else Abnormal
23	<b>Blood oxygen concentration (SpO2 levels)</b>	97.9 %		Limited to 94% right now

### Interpretation:

- Normal: Your respiratory rate and blood oxygen concentration are within the normal range, indicating efficient respiratory function and adequate oxygenation of tissues.
- Abnormal: Your respiratory rate or blood oxygen concentration deviates from the normal range, suggesting potential respiratory issues or impaired oxygenation.

### Recommended steps:

- Normal: Continue practicing healthy breathing habits and maintain an active lifestyle to support optimal respiratory function and oxygenation.
- Abnormal: Consult with a healthcare provider to evaluate respiratory symptoms, perform diagnostic tests if necessary, and develop a treatment plan to address any underlying respiratory issues.

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This category evaluates stress levels and overall wellness through metrics such as stress level monitoring, perfusion index, pleth variability index (PVI), and dehydration levels. These metrics provide insights into the body's physiological response to stress and hydration status, which are essential for maintaining overall well-being.

Sr. No	Parameters	Values	Range	Reference
24	<b>Heart rate variability</b>	24 %		NA
25	<b>Stress level monitoring</b>	Normal		NA
26	<b>Perfusion index</b>	10.9 %	Normal	0-25% is Normal, else Abnormal
27	<b>Pleth variability index (PVI)</b>	0 %		0-100% is Normal, else Abnormal

### Interpretation:

- **Low Risk:** Your stress levels are manageable, and wellness metrics such as perfusion index and pleth variability index indicate good physiological balance and hydration status.
- **Medium Risk:** Your stress levels may be elevated, or there are fluctuations in wellness metrics, indicating potential areas for stress management and wellness improvement.
- **High Risk:** Your stress levels are significantly elevated, or wellness metrics show signs of physiological imbalance or dehydration, suggesting a need for immediate attention and intervention.

### Recommended steps:

- **Low Risk:** Maintain stress-reducing activities such as mindfulness, relaxation techniques, and adequate hydration to support overall well-being.
- **Medium Risk:** Implement stress management strategies such as regular exercise, meditation, and hydration monitoring to improve stress levels and wellness metrics.
- **High Risk:** Seek professional guidance from healthcare providers or wellness experts to address elevated stress levels and physiological imbalances, focusing on comprehensive stress management and hydration optimization.



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