En Advanced Body Composition Analysis

DeepCatch

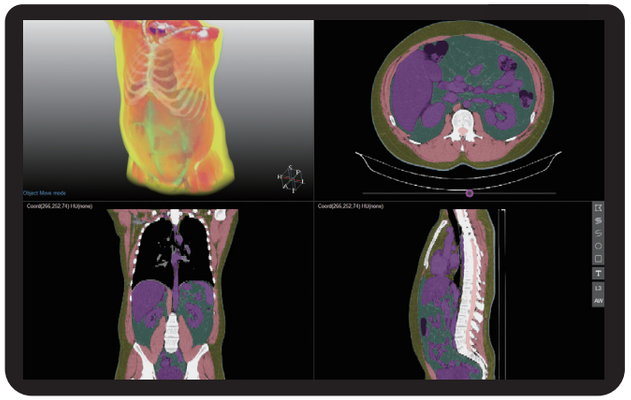
FDA 510(k) Clearance

MEDICAL IP

Product Information

01 :: Automatic Analysis

DEEPCATCH automatically analyzes the whole-body composition from CT images to provide accurate figures and information. Based on quantitative information on body composition, various diseases, such as obesity and sarcopenia, can be detected and monitored. Furthermore, it can be used for early detection of metabolic diseases.



All types of DICOM regardless of CT manufacturers

Immediate analysis results after CT scan

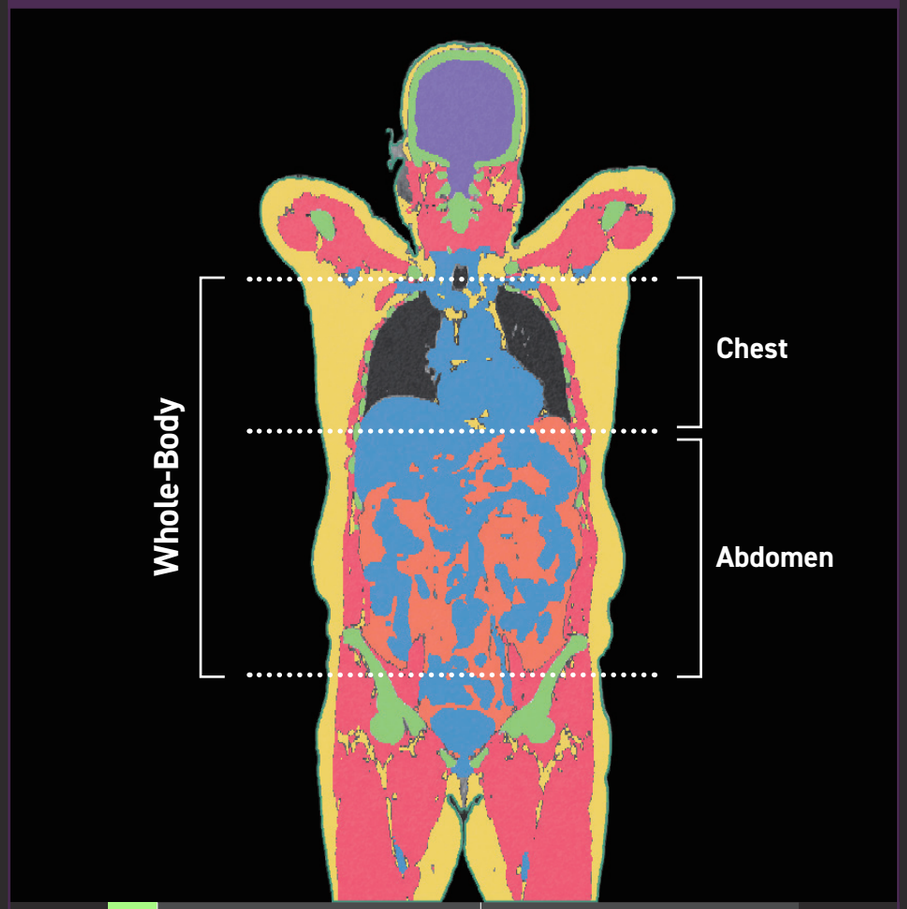
Macro functionality for mass data analysis (Optional)

Automatic One-click body composition analysis using AI deep learning with 97% accuracy

Target Organ	Accuracy
Skin	94.05 %
Bone	98.10 %
Muscle	98.15 %
Abdominal visceral fat	95.06 %
Subcutaneous fat	97.10 %
Internal organs	97.59 %
Central nervous system	98.03 %
Average	**97.63** %

Whole-Body Composition Analysis

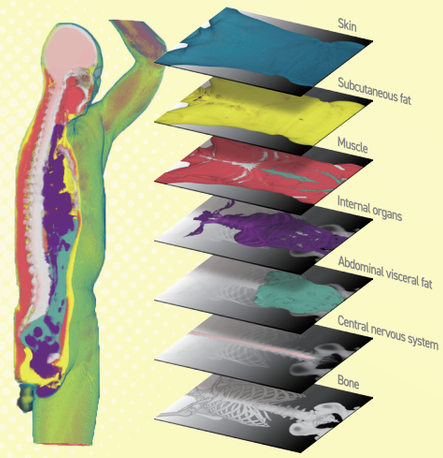
with any CT scan data



Bone	3.79 ℓ
Muscle	12.71 ℓ
Abdominal visceral fat	3.23 ℓ
Subcutaneous fat	18.63 ℓ
Internal organs	5.20 ℓ
Central nervous system	1.44 ℓ
Skin	1.89 ℓ

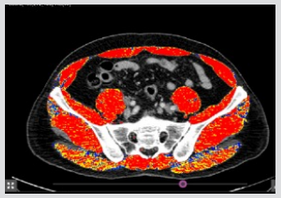
02 :: Advanced Function for Accurate Profiling

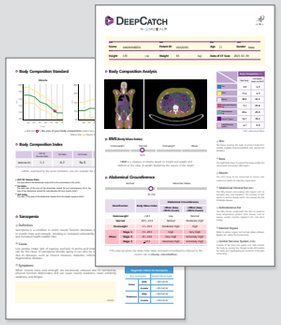
Biomarker for Opportunistic Screening



- Sarcopenia
- Myosteatosis
- Osteoporosis
- Liver Steatosis
- Aorta Calcification

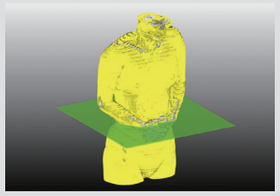
° Quantitative information for muscle quality and obesity with numerical-3D visualized report

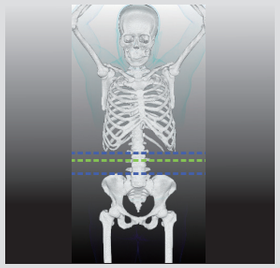




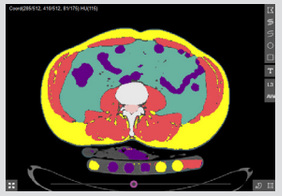
° Auto-detection of L3 and AW

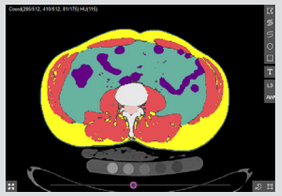
(AW: abdominal waist)





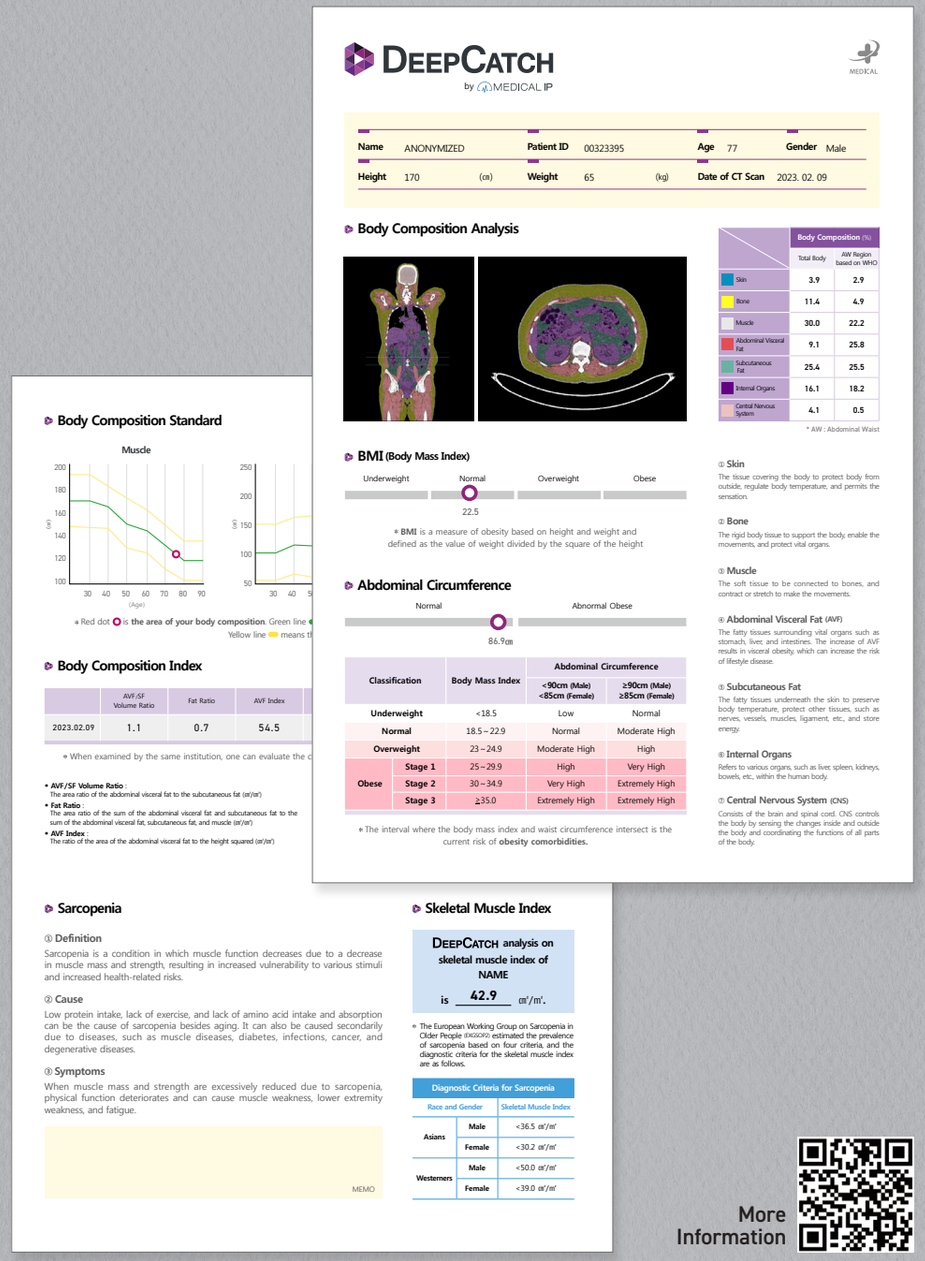
° Removal of Arm / QCT Phantom from body trunks





03 :: Lifelog Report

Numerical and 3D Visualized Information of Body Composition



DEEPCATCH by MEDICAL IP

MEDICAL

Name	ANONYMIZED		**Patient ID**	00323395	**Age**	77	**Gender** Male
Height	170	(cm)	**Weight**	65	(kg)	**Date of CT Scan**	2023. 02. 09

Body Composition Analysis

	Body Composition (%)	
	Total Body	AW Region based on WHO
Skin	3.9	2.9
Bone	11.4	4.9
Muscle	30.0	22.2
Abdominal Visceral Fat	9.1	25.8
Subcutaneous Fat	25.4	25.5
Internal Organs	16.1	18.2
Central Nervous System	4.1	0.5

* AW : Abdominal Waist

BMI (Body Mass Index)

Underweight | Normal | Overweight | Obese

22.5

* **BMI** is a measure of obesity based on height and weight and defined as the value of weight divided by the square of the height

Abdominal Circumference

Normal | Abnormal Obese

86.9cm

Classification		Body Mass Index	Abdominal Circumference <90cm (Male) <85cm (Female)	Abdominal Circumference ≥90cm (Male) ≥85cm (Female)
Underweight		<18.5	Low	Normal
Normal		18.5 – 22.9	Normal	Moderate High
Overweight		23 – 24.9	Moderate High	High
Obese	Stage 1	25 – 29.9	High	Very High
	Stage 2	30 – 34.9	Very High	Extremely High
	Stage 3	≥35.0	Extremely High	Extremely High

* The interval where the body mass index and waist circumference intersect is the current risk of **obesity comorbidities.**

① **Skin**
The tissue covering the body to protect body from outside, regulate body temperature, and permits the sensation.

② **Bone**
The rigid body tissue to support the body, enable the movements, and protect vital organs.

③ **Muscle**
The soft tissue to be connected to bones, and contract or stretch to make the movements.

④ **Abdominal Visceral Fat** (AVF)
The fatty tissues surrounding vital organs such as stomach, liver, and intestines. The increase of AVF results in visceral obesity, which can increase the risk of lifestyle disease.

⑤ **Subcutaneous Fat**
The fatty tissues underneath the skin to preserve body temperature, protect other tissues, such as nerves, vessels, muscles, ligament, etc., and store energy.

⑥ **Internal Organs**
Refers to various organs, such as liver, spleen, kidneys, bowels, etc., within the human body.

⑦ **Central Nervous System** (CNS)
Consists of the brain and spinal cord. CNS controls the body by sensing the changes inside and outside the body and coordinating the functions of all parts of the body.

Body Composition Standard

Muscle

* Red dot is **the area of your body composition**. Green line
Yellow line means th

Body Composition Index

	AVF/SF Volume Ratio	Fat Ratio	AVF Index
2023.02.09	1.1	0.7	54.5

* When examined by the same institution, one can evaluate the c

* **AVF/SF Volume Ratio :**
The area ratio of the abdominal visceral fat to the subcutaneous fat (㎠/㎠)
* **Fat Ratio :**
The area ratio of the sum of the abdominal visceral fat and subcutaneous fat to the sum of the abdominal visceral fat, subcutaneous fat, and muscle (㎠/㎠)
* **AVF Index :**
The ratio of the area of the abdominal visceral fat to the height squared (㎠/㎡)

Sarcopenia

① **Definition**
Sarcopenia is a condition in which muscle function decreases due to a decrease in muscle mass and strength, resulting in increased vulnerability to various stimuli and increased health-related risks.

② **Cause**
Low protein intake, lack of exercise, and lack of amino acid intake and absorption can be the cause of sarcopenia besides aging. It can also be caused secondarily due to diseases, such as muscle diseases, diabetes, infections, cancer, and degenerative diseases.

③ **Symptoms**
When muscle mass and strength are excessively reduced due to sarcopenia, physical function deteriorates and can cause muscle weakness, lower extremity weakness, and fatigue.

MEMO

Skeletal Muscle Index

DEEPCATCH analysis on skeletal muscle index of NAME

is 42.9 ㎠/㎡.

* The European Working Group on Sarcopenia in Older People (EWGSOP2) estimated the prevalence of sarcopenia based on four criteria, and the diagnostic criteria for the skeletal muscle index are as follows.

Diagnostic Criteria for Sarcopenia		
Race and Gender		Skeletal Muscle Index
Asians	Male	<36.5 ㎠/㎡
	Female	<30.2 ㎠/㎡
Westerners	Male	<50.0 ㎠/㎡
	Female	<39.0 ㎠/㎡

More Information

Providing Understandable Explanations through Compassionate Communication.