A Guide to Promoting Healthy Lifestyle Choices Following a BCP Scan

The BCP (Body Composition Profile) consists of five measurements that help understand the composition of an individual's body.

This guide describes BCP measurements in detail and the associated health risks. It also highlights lifestyle interventions* for each measurement that may help improve the composition of our body, such as nutrition and exercise/physical activity.

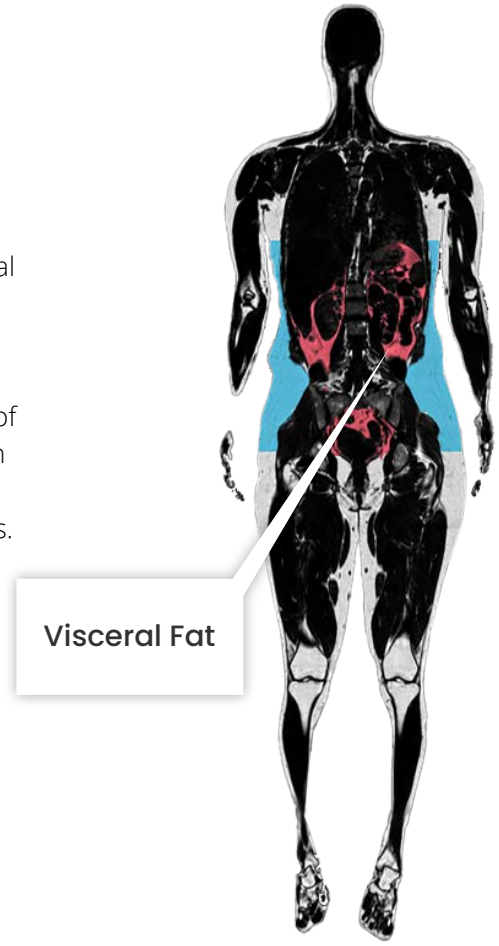
** Recommendations and interventions provided in this document may not be suitable for all individuals. Patients should consult their Healthcare provider for specific guidance.*

Visceral Fat

What Is Visceral Fat?
Intra-abdominal fat is stored around and between the abdominal organs.

Health Risks
Excessive visceral fat has been presented as a strong predictor of cardiovascular diseases as well as type 2 diabetes, and has been associated with increased risk of cancer, liver inflammation and fibrosis, metabolic syndrome, stroke, sleep apnea, among others.

Learn more about the scientific references on page 9.



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Interventions That May Help Reduce Visceral Fat

Nutrition

Follow recommendations from the Dietary Guidelines for Americans (read more on Addendum page 7).

- Weight loss
- The Mediterranean diet
- Plant-based diets
- Intermittent fasting - Limit the amount of hours allowed to eat during the day

Physical Activity And Exercise

Follow recommendations from the Physical Activity Guidelines for Americans (read more on Addendum page 7).

- Exercise of moderate to high intensity:
  - Moderate intensity: An effort of 5 or 6 out of 10; The person can talk, but not sing during the activity
  - High intensity: An effort of 7 or 8 out of 10 The person cannot talk during the activity
- High-intensity interval training, specially running:
  - Short periods of high-intensity activity alternated with periods of lower-intensity or complete rest

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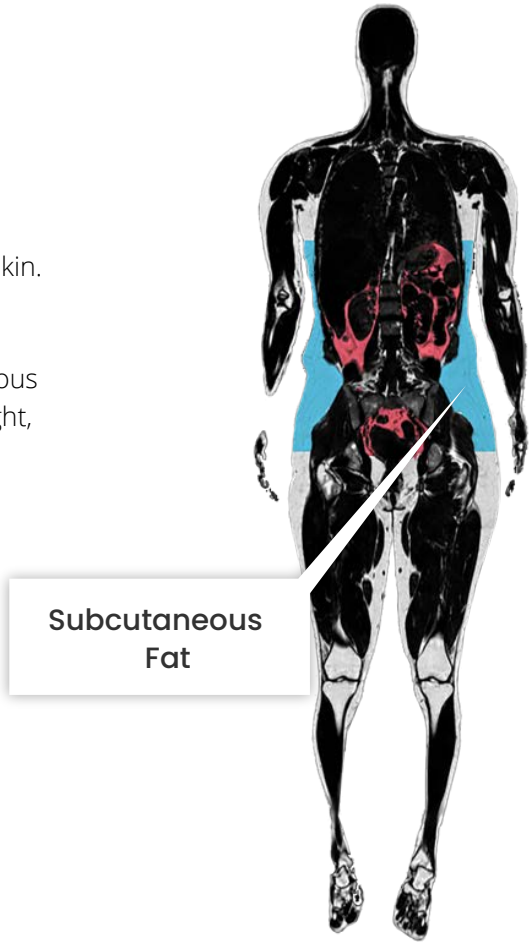
Subcutaneous Fat

What Is Subcutaneous Fat?
The most prominent type of fat and it is stored beneath the skin.

Health Risks
Generalized excessive fat accumulation, including subcutaneous fat as the prominent type, has been associated with overweight, obesity, cardiovascular diseases, type 2 diabetes, cancer, depression, osteoarthritis, sleep apnea, among others.

Learn more about the scientific references on page 9.



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Interventions That May Help Reduce Subcutaneous Fat

Nutrition

Follow recommendations from the Dietary Guidelines for Americans (read more on Addendum page 7).

Individuals with overweight or obesity should follow the recommendations proposed by the Obesity Clinical Practice Guidelines with the guidance of a dietitian or health educator (read more on Addendum page 8).

Physical Activity And Exercise

Follow recommendations from the Physical Activity Guidelines for Americans (read more on Addendum page 7).

Individuals with overweight or obesity should follow the recommendations proposed by the Obesity Clinical Practice Guidelines with the guidance of an exercise trainer, physical activity coach, or physical/ occupational therapist (read more on Addendum page 8).

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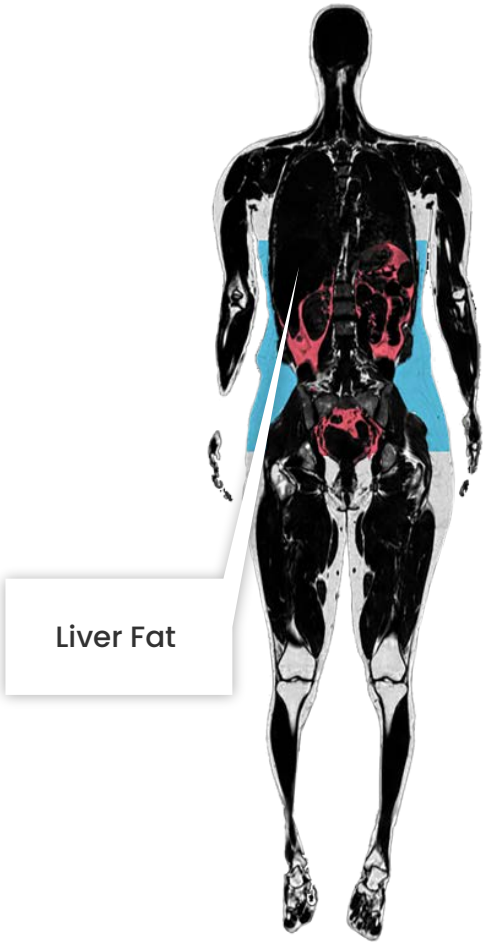
Liver Fat

What Is Liver Fat?
Fat stored inside the liver.

Health Risks
Excessive accumulation of fat in the liver increases the risk of nonalcoholic fatty liver disease, cirrhosis, hepatocellular carcinoma, and type 2 diabetes.

Learn more about the scientific references on page 9.



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Interventions That May Help Reduce Liver Fat

Nutrition

Follow recommendations from the Dietary Guidelines for Americans (read more on Addendum page 7).

- Weight loss
- The Mediterranean diet
- ↓ Red and processed meats
- Limit the consumption of fructose
- ↑ Fiber
- Replace food items high in saturated fat by the ones with healthy fats
- Replace processed and ultra-processed food consumption with unprocessed or minimally processed foods
- Limit alcohol consumption

Physical Activity And Exercise

Follow recommendations from the Physical Activity Guidelines for Americans (read more on Addendum page 7).

- Aerobic/cardio and vigorous intensity exercise:
  - Aerobic/cardio exercise: Walking, swimming, running, cycling, etc
  - Vigorous intensity exercise: An effort of 7 or 8 out of 10. The person cannot talk during the activity
- Perform a minimum of 150 minutes per week of moderate exercise:
  - Moderate exercise: An effort of 5 or 6

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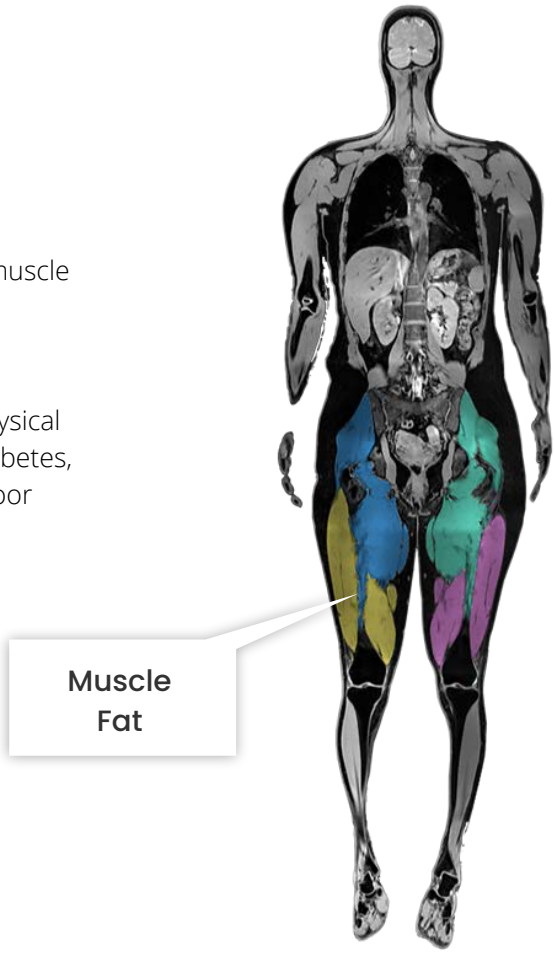
Muscle Fat

What Is Muscle Fat?
Fat deposited inside skeletal muscles and it indicates the muscle quality.

Health Risks
Excessive muscle fat has been associated with reduced physical function, disability, frailty, increased fracture risk, type 2 diabetes, increased risk of hospitalization, severe illness outcome, poor overall survival, among others.

Learn more about the scientific references on page 10.



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Interventions That May Help Reduce Muscle Fat

Nutrition

Follow recommendations from the Dietary Guidelines for Americans (read more on Addendum page 7).

- Weight loss
- Supplementation with omega-3 fatty acids
- Avoid:
  - Diets high in fat
  - Diets that contains more calories than the amount an individual burns in a day and is high in carbohydrates
  - Short-term starvation diets

Physical Activity And Exercise

Follow recommendations from the Physical Activity Guidelines for Americans (read more on Addendum page 7).

- Aerobic/cardio exercise: Walking, swimming, running, cycling, etc
- Resistance exercise: Weightlifting. Examples include squats, lunges, deadlifts, pull ups, lat pulldown, bent over row, push-ups, and bench press

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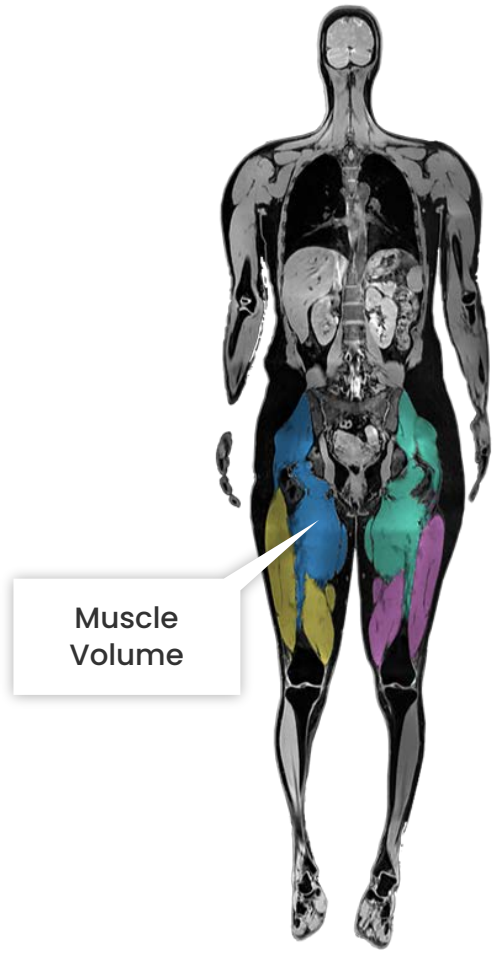
Muscle Volume

What Is Muscle Volume?
Lean volume of skeletal muscles and it indicates the muscle quantity.

Health Risks
Low muscle volume has been associated with shorter survival, longer length of hospital stay, higher surgical and post-operative complications, poorer quality of life, frailty, sarcopenia, falls, and lower physical function.

Learn more about the scientific references on page 10.



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Interventions That May Help Improve Muscle Volume

Nutrition

Follow recommendations from the Dietary Guidelines for Americans (read more on Addendum page 7).

- Certain nutrients and ingredients may help with muscle health:
  - Protein
  - Amino acids and derivatives (leucine, ß-hydroxy ß-methylbutyrate, glutamine, carnitine, and creatine)
  - Omega-3 fatty acids
  - Vitamin D

Physical Activity And Exercise

Follow recommendations from the Physical Activity Guidelines for Americans (read more on Addendum page 7).

- Resistance exercise: weightlifting. Examples include squats, lunges, deadlifts, pull ups, lat pulldown, bent over row, push-ups, and bench press

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ADDENDUM

Nutrition

Follow Recommendations From The Dietary Guidelines For Americans (1):

- Choose healthy foods and beverages rich in nutrients
- Choose a variety foods from each food group (vegetables, fruits, grains, dairy, protein foods, and oils)
- Pay attention to portion sizes
- Limit foods and beverages with added sugars, saturated fat, and sodium
- Limit alcoholic beverages

Recommendations Proposed By The Obesity Clinical Practice Guidelines With The Guidance Of A Dietitian Or Health Educator (2):

- Cut calories (500 to 750 kcal per day)
- Individualize the diet based on personal and cultural preferences
- Eat a healthy diet
- When recommended, use meal replacements

Physical Activity And Exercise

Recommendations From The Physical Activity Guidelines For Americans (3):

- Children, youth, older adults, individuals with chronic health conditions, individuals with disabilities, pregnant women, and women in the postpartum period should consult the guidelines for specific recommendations

For Healthy Adults:

- Move more and sit less throughout the day
- 150-300 min/week of moderate activity or 75-150 min/week of vigorous activity
- Muscle-strengthening activities ≥2 times/week

Recommendations Proposed By The Obesity Clinical Practice Guidelines With The Guidance Of An Exercise Trainer, Physical Activity Coach, Or Physical/Occupational Therapist (2):

- Aerobic activity >150 min/week 3 to 5 days/week
- Resistance exercise 2 to 3 times per week
- Move more throughout the day
- Individualize based on preferences and limitations

(1) U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9 ed. Washington, DC, 2020.

(2) Garvey WT, Mechanick JI, Brett EM, Garber AJ, Hurley DL, Jastreboff AM, et al. American Association of Clinical Endocrinologists and American College of Endocrinology Comprehensive Clinical Practice Guidelines for Medical Care of Patients with Obesity. Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists. 2016;22 Suppl 3:1-203.

(3) U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans. In: U.S. Department of Health and Human Services, editor. 2nd edition ed. Washington, DC, 2018.

ADDENDUM

AMRA® BCP Scan Measurement Definitions

Visceral Fat

Defined as the volume of adipose tissue within the abdominal cavity, excluding adipose tissue outside the abdominal skeletal muscles and adipose tissue and lipids within the cavity and posterior of the spine and back muscles. The Visceral Fat is measured in liters (L).

Subcutaneous Fat

Defined as the subcutaneous adipose tissue volume in the abdomen from the top of the femoral heads to the top of the thoracic vertebrae, T9. The Subcutaneous Fat is measured in liters (L).

Liver Fat

Defined as the average proton density fat fraction in regions of interest in the liver. Liver Fat is measured in percentages (%).

Muscle Fat

Muscle Fat is the fraction of adipose tissue in the muscle, also known as muscle fat infiltration or intramuscular fat. Defined as the average proton density fat fraction in the muscle. Muscle Fat is measured in percentages (%).

Muscle Volume

The fat-free muscle volume. Defined as the volume of all voxels with fat fraction <50%. The Muscle Volume is measured in liters (L).

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Visceral Fat

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AMRA Medical is a global leader in health informatics, pioneering fat and muscle analysis with proprietary MRI-based technologies. Our gold-standard platform delivers precise biomarkers, offering a deeper understanding of metabolic and musculoskeletal health. AMRA supports data-driven decision-making in research and clinical care through standardized, cloud-based workflows—enabling actionable insights from early discovery to clinical outcomes.

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