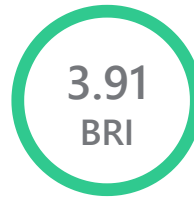




**Hanna Dee**

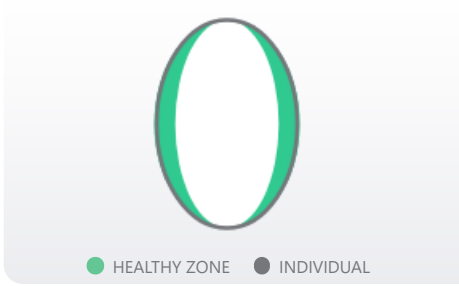
Date: 01/04/2022  
 Birthdate: 05/16/1949 (72)  
 Sex: Female



MEASUREMENTS	
Height:	5 ft 4 in
Weight:	128 pounds
Waist Circumference:	34 inches
Hip Circumference:	40 inches
Percent Body Fat:	30.7%
Visceral Adipose Tissue:	3.3%

**BODY ROUNDNESS INDEX (BRI)**

Your Score	Normal Range	Your Classification	Risk Factors
3.91	1.49 - 4.29	GOOD	LOW

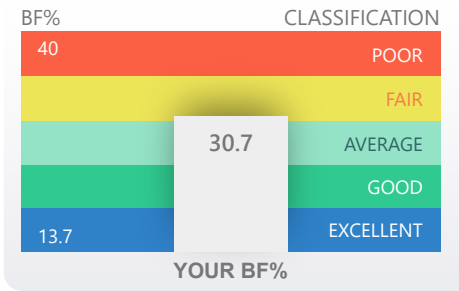


**BODY ROUNDNESS INDEX (BRI)** BRI combines height and waist circumference and reflects both visceral adipose tissue and body fat percentage.<sup>1-3</sup> The BRI ranges between 1 to 20 (1 = narrow body, 20 = more round). The BRI outputs a graph of body shape with reference to a healthy zone. The BRI was found to correlate well with measurements taken by Bioelectrical Impedance Analysis.<sup>1,2</sup> The BRI is able to determine the presence of cardiovascular disease and diabetes but not superior to BMI, waist circumference or waist-to-height ratio.<sup>4,6,7</sup> However, the BRI was found to be superior to the BMI and is an alternative index for assessing diabetes in people in Northeast China.<sup>5</sup> BRI was also found to predict coronary heart disease risk in Chinese males and females.<sup>3</sup>



**BODY FAT PERCENTAGE (BF%)**

Your Score	Normal Range	Your Classification	Risk Factors
30.7	22.6 - 30	FAIR	MODERATE

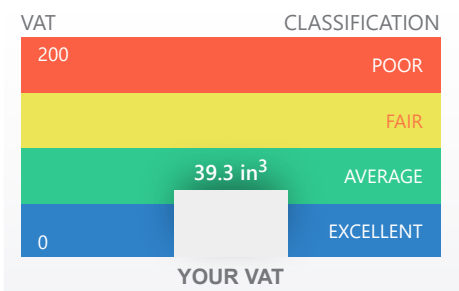


**BODY FAT PERCENTAGE (BF%)** The body fat percentage (BFP) is the total mass of fat in the human body that includes essential body fat and storage body fat. Essential body fat is necessary to maintain life and reproductive functions. The body fat percentage is based off the Body Roundness Index and provides a more accurate body fat prediction over other formulas.<sup>1</sup> Data from NHANES III, St. Luke's-Roosevelt Hospital, and other published healthy body fat ranges were used to determine prediction models of total % body fat, and validated against the Kiel dataset.<sup>1,2</sup> The ACSM and Cooper Institute uses references values for the interpretation of body fat.<sup>8,9</sup>

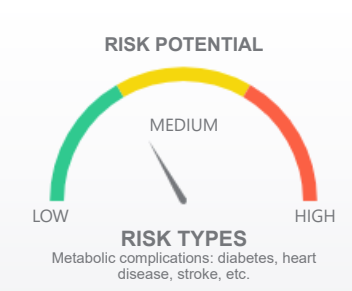


**VISCERAL ADIPOSE TISSUE (VAT)**

Your Score	Normal Range	Your Classification	Risk Factors
39.3 in <sup>3</sup>	0 - 61	AVERAGE	LOW TO MODERATE



**VISCERAL ADIPOSE TISSUE (VAT)** VAT is Fat tissue located deep in the abdomen and around internal organs. Excess of visceral adipose tissue (VAT), which appears with increasing age, has been shown to be associated with cardiovascular disease (CVD), type 2 diabetes, and all cause-mortality, beyond general obesity.<sup>10-12</sup> The Body Roundness Index is a predictor of % VAT, and provides a more accurate estimate of % VAT.<sup>1</sup> The NHANES, and St.Luke's-Roosevelt Hospital database were validated against the Kiel database to develop predictive models of % VAT. VAT references values are used for interpretation of co morbidity health risk.<sup>13-14</sup>



Classification	VAT Volume (in <sup>3</sup> )	Description
IDEAL   HEALTHY	0.0 to 30.5	A VAT volume (in <sup>3</sup> ) between the level listed above is considered an ideal range.
AVERAGE   LOW	30.5 to 61.0	A VAT volume (in <sup>3</sup> ) in the range listed above is considered to be at low risk.
AT RISK   MODERATE	61.0 to 91.5	If your VAT volume (in <sup>3</sup> ) is in the range listed above, your risk may be considered moderate.
AT RISK   VERY HIGH	91.5 +	If your VAT volume (in <sup>3</sup> ) is at or above the level listed above, your risk may be considered very high.

**REFERENCES**

**BODY ROUNDNESS INDEX (BRI)**

- Thomas et al. Relationships between body roundness with body fat and visceral adipose tissue emerging from a new geometrical model. Obesity (Silver Spring). 2013 November; 21(11): 2264-2271.
- Gallagher et al. Healthy percentage body fat ranges: an approach for developing guidelines based on body mass index. Am J Clin Nutr. 2000. 72(3):694-701.
- Wang et al. New anthropometric indices or old ones: which perform better in estimating cardiovascular risks in Chinese adults. BMC Cardiovascular Disorders. (2018) 18:14.
- Maessen MFH, Eijsvogels TMH, Verheggen RJHM, Hopman MTE, Verbeek ALM, et al. Entering a New Era of Body Indices: The Feasibility of a Body Shape Index and Body Roundness Index to Identify Cardiovascular Health Status. (2014) PLoS ONE 9(9): e107212. doi:10.1371/journal.pone.0107212.
- Zhao et al. Capacity of a body shape index and body roundness index to identify diabetes mellitus in Han Chinese people in Northeast China: a cross-sectional study Diabet. Med. (2018) 35, 1580-1587.
- Chang Y, Guo X, Chen Y, Guo L, Li Z, Yu S et al. A body shape index and body roundness index: two new body indices to identify diabetes mellitus among rural populations in northeast China. BMC Public Health 2015; 15: 794.
- Feng et al. Body Adiposity Index and Body Roundness Index in Identifying Insulin Resistance Among Adults Without Diabetes. Am J Med Sci 2019;357(2):116-123.

**BODY FAT PERCENT (%)**

- Body Composition Norms. Physical Fitness Assessments and Norms for Adults and Law Enforcement. The Cooper Institute, Dallas, Texas, 2013.
- Liguori G. ACSM's Health Related Physical Fitness Assessment Manual, 5th ed. Wolters Kluwer, Philadelphia PA, 2018.

**VISCERAL ADIPOSE TISSUE**

- Britton KA, Massaro JM, Murabito JM, Kregger BE, Hoffman U, Fox CS. Body Fat Distribution, Incident Cardiovascular Disease, Cancer, and All-cause Mortality. J Am Coll Cardiol. 2014;62: 921-925.
- Galmes-Panades AM, Konieczna J, Abete I, et al. Lifestyle factors and visceral adipose tissue: Results from the PREDIMED-PLUS study. PLOS ONE 2019;14(3): e0214837.
- Lee JJ, Pedley A, Hoffmann U, Massaro JM, Fox CS. Association of Changes in Abdominal Fat Quantity and Quality With Incident Cardiovascular Disease Risk Factors. J Am Coll Cardiol. 2016 Oct 4;68(14):1509-21
- Nam S.Y., Choi I.J., Ryu K.H., Park B.J., Kim H.B., Nam B. Abdominal visceral adipose tissue volume is associated with increased risk of erosive esophagitis in men and women. Gastroenterology. 2010;139 (6):1902-1911.
- Nam SY1, Kim BC, Han KS, Ryu KH, Park BJ, Kim HB, Nam BH. Abdominal visceral adipose tissue predicts risk of colorectal adenoma in both sexes. Clin Gastroenterol Hepatol. 2010 May;8(5):443-50.