

Method Comparison

	Skinfold Calipers	BodyMetrix (Ultrasound)	Bioelectrical Impedance (BIA)	Near-infrared	Underwater Weighing	Air Displacements	DXA, CT and MRI
BF% Accuracy	Difficulty obtaining proper skinfolds on obese, children and elite populations	✓	Varies based on hydration, alcohol and caffeine levels	Only uses one measurement site	✓	✓	✓
BF% Consistency	Can vary between assessors based on experience and technique	✓	Varies based on hydration, alcohol and caffeine levels	Stray light can cause errors	✓	✓	✓
Actual Fat/Muscle Thickness	Only measures fold thickness	✓	✗	✗	✗	✗	✓
Muscle Quality	✗	✓	✗	✗	✗	✗	✓
Expertise	Requires trained specialist	✓	✓	✓	Requires trained specialist	Requires trained specialist	Requires certified technician
Comfort	Painful pinching for clients	✓	✓	✓	Requires full underwater submersion for up to 15 sec. multiple times during assessment	Requires up to 5 min. in small sealed chamber. Must wear minimal form-fitting clothing and shower cap. No eating or exercising for 2 hours before test	DXA and CT involve limited radiation exposure
Portability	✓	✓	Some non-segmental models are portable	✓	✗	✗	✗
Price	\$	\$\$	\$\$	\$\$	\$\$\$	\$\$\$	\$\$\$\$