

DEXA Made Athletes

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What is a DEXA Scan?

DEXA scans, also known as dual-energy x-ray absorptiometry, have been widely known and used for their ability to measure bone mineral density, test the strength of the bone, and determine fracture risk. For this, a patient lays on the table while a central device is placed above them. It looks at areas like your spine and hips. It goes up and down the body with the IR above the patient. The other option is a peripheral device that looks more at the extremities like wrist, feet, fingers, etc.

What is a Z-score?

DEXA can look at lean and fat mass, as well as body fat to show athletes where they are at in terms of other athletes in their age and sex range. An example of this can be seen with a person's z-score. A "Z-score is the number of standard deviations above or below what is normally expected for someone of your age, sex, weight, and ethnic or racial origin." Similar to this is something called a T-score. This differs from the Z-score by measuring what someone's bone density is. On a scale from above a -1 to below a -2.5, this can be a main indicator pointing back to potentially having osteoporosis based off your bone density in your age group.

Treatments for Osteoporosis

1. Athletes who struggle with this disease are put on treatment plans that may consist of different medications like bisphosphonates or denosumab. These medications are temporary as they both have a known complication where they may cause a line fracture in the femur. This is one of the main reasons providers suggest taking it for only a short period of time.
2. Resistance exercises are one good example athletes can use. These consist of exercises like pushups or the use of resistance bands. When doing these workouts your body produces things like magnesium and calcium that help grow back bone density
3. Walking and low-impact aerobics are also two great workouts that increase blood flow and help decrease bone loss in areas like the hips, legs, and lower spine.



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- BMI, or body mass index, is the weight of the body in kilograms divided by the height squared in grams.
- This goes from a scale of 10 to 45, 10 being underweight and 45 being the third obesity range.
- An example is protein, this is essential to the body for things like recovering and growing your muscles.
- Protein can also be used as a source of energy for the body. Some good examples of this for consumption can be things like chicken, salmon, shrimp, and Greek yogurt.
- On average, athletes want around 0.8 grams of protein per kilogram of lean muscle mass to maintain a balanced, healthy life.
- If trying to build muscle or lose weight, they would need to increase that protein intake to around the 1-1.5 range of protein per kilogram of lean muscle mass.
- Using DEXA, we can see each individual's lean muscle mass and apply the protein intake accordingly to please the competitor.
- So whether they are bulking for football and want to reach a higher BMI by putting on weight, or cutting for something like track to hit a lower BMI to gain speed, this allows them to take a closer look into how to achieve that goal.

Conclusion

DEXA scans are so much more than just scans that are used for treatment plans of different bone diseases. Whether it is a density loss bone in the lower leg caused by osteoporosis or checking tissue and fat in different organs in the body, this device can help everyone. Athletes or not, this can help improve and prolong healthy living. If wanting to reach their peak development is what they have in mind, this is the perfect baseline to make that happen.



Acknowledgements

<https://www.radiologyinfo.org>
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