

Drug that reverses diabetes and obesity in mice may strengthen brittle bones

A drug that can reverse diabetes and obesity in mice may have an unexpected benefit: strengthening bones. Experiments with a compound called TNP (2,4,6-trinitrophenol), which is also known as picric acid), which researchers often use to study obesity and diabetes, show that in mice the therapy can promote the formation of new bone. That's in contrast to many diabetes drugs currently in wide use that leave patients' bones weaker. If TNP has similar effects in humans, it may even be able to stimulate bone growth after fractures or prevent bone loss due to aging or disuse.

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For 8 weeks, they fed normal mice a high-fat diet and gave them daily injections of either TNP, a well-known IP6K1 [a gene that codes for insulin sensitivity] inhibitor, or a placebo. When they analyzed the animals' bones and marrow, they found that mice that had received TNP had significantly more bone cells, fewer fat cells, and greater overall bone area. The IP6K1 inhibitor apparently protected the mice from the detrimental effects of the high-fat diet.

The study "provided the surprising result that one new therapy currently being explored to lower insulin resistance promotes, rather than decreases, the formation of bone in mice," says Darwin Prockop, a stem cell researcher.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [New therapy could protect diabetic bones](#)