

Human Growth Hormone

Savine R, Sonksen PH. Related Articles

[Is the somatopause an indication for growth hormone replacement?](#)

J Endocrinol Invest. 1999;22(5 Suppl):142-9. Review.

PMID: 10442584; UI: 99369188

Aleman A, Verhaar HJ, De Haan EH, De Vries WR, Samson MM, Drent ML, Van der Veen EA, Koppeschaar HP. Related Articles

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J Clin Endocrinol Metab. 1999 Feb;84(2):471-5.

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[Effect of recombinant human growth hormone in elderly osteoporotic women.](#)

Clin Endocrinol (Oxf). 1999 Dec;51(6):715-724.

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[Effects of physiologic growth hormone therapy on bone density and body composition in patients with adult-onset growth hormone deficiency. A randomized, placebo-controlled trial.](#)

Ann Intern Med. 1996 Dec 1;125(11):883-90.

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[Decrease in carotid intima-media thickness after one year growth hormone \(GH\) treatment in adults with GH deficiency.](#)

J Clin Endocrinol Metab. 1999 Apr;84(4):1329-33.

PMID: 10199774; UI: 99213866

[Growth hormone \(GH\) treatment reverses early atherosclerotic changes in GH-deficient adults.](#)

J Clin Endocrinol Metab. 1999 Feb;84(2):453-7.

PMID: 10022400; UI: 99144998

[Decrease in carotid intima-media thickness after one year growth hormone \(GH\) treatment in adults with GH deficiency.](#)

J Clin Endocrinol Metab. 1999 Apr;84(4):1329-33.

PMID: 10199774; UI: 99213866

[The role of growth hormone and insulin-like growth factor I in the regulation of apoptosis.](#)

Growth Horm IGF Res. 1999 Apr;9 Suppl A:125-8. Review. No abstract available.

PMID: 10429896; UI: 99358544

Rudman, D et al. Effects of Human Growth Hormone in Men over 60 years old. *New*

England Journal of Medicine. 323:1-6, 1990.

Dr. Rudman's article in the prestigious New England Journal of Medicine concluded that Human Growth Hormone replacement therapy reversed the changes of aging 10-20 years.

Cittadini A et al. *American Journal of Physiology* 1994 Aug;267(2 Pt 1):E219-25

Impaired cardiac performance in GH-deficient adults and its improvement after GH replacement.

Part of the weakness and eventual debility that is associated with growth hormone deficiency is poor cardiac function. Replacing growth hormone will improve heart function.

O'Halloran DJ, Tsatsoulis A, Whitehouse RW et al. Increased Bone Density after Growth Hormone (HGH) Therapy in Adults with Isolated HGH Deficiency. *J Clin Endo Metab* 1993;76:1344-48.

Growth hormone replacement is the only known treatment which will actually cause new bone growth, decreasing osteoporosis and the risk of fracture.

Salomon F, Cuneo RC, Hesp R et al. The Effects of Treatment with Recombinant Human Growth Hormone on Body Composition and Metabolism in Adults with Growth Hormone Deficiency. *New England Journal of Medicine* 1989;321:1797-1803.

Bengtsson BA. The Consequences of Growth Hormone Deficiency in Adults. *Acta Endocrinologica* 1993;128 (Suppl 2):2-5.

Cuneo RC, Salomon F, Wiles CM et al. Growth Hormone Treatment in Growth Hormone Deficient Adults. II. Effects on Exercise Performance. *Journal of Applied Physiology* 1991;70:695-700.

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McGauley GA, Cuneo RC, Salomon F et al. Psychological Well-Being Before and After Growth Hormone Treatment in Adults with Growth Hormone Deficiency. *Hormone Research* 1990;33 (suppl 4):52-54.

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Johnston DG, Bengtsson BA. Workshop Report: the Effects of Growth Hormone and Growth Hormone Deficiency on Lipids and the Cardiovascular System. *Acta Endocrinologica* 1993;128 (Suppl 2): 69-70.

Amato G, Carella C, Fazio S et al. Body Composition, Bone Metabolism, and Heart Structure and Function in Growth Hormone (GH)-Deficient Adults Before and After GH Replacement Therapy at Low Doses. *Journal of Clinical Endocrinology and Metabolism* 1993;77:1671-1676.

Lieberman SA, Hoffman AR. *Clin Geriatr Med* 1997 Nov;13(4):671-84. [The somatopause: should growth hormone deficiency in older people be treated?](#)

Rosen T, Johannsson G, Johannsson JO, Bengtsson BA . *Horm Res* 1995;43(1-3):93-9. [Consequences of growth hormone deficiency in adults and the benefits and risks of recombinant human growth hormone treatment. A review paper.](#)

Replacement therapy with growth hormone is safe without any serious side effects

Johannsson G, Rosen T, Bosaeus I, Sjoström L, Bengtsson BA. *J Clin Endocrinol Metab* 1996 Aug;81(8):2865-73. [Two years of growth hormone \(GH\) treatment increases bone mineral content and density in hypopituitary patients with adult-onset GH deficiency.](#)

In 2 years of treatment with growth hormone, bone density increases 4%

There is a mountain of evidence of the benefits of growth hormone replacement to youthful levels. There is approximately 20 year experience in children receiving growth hormone that demonstrates that no serious medical complications are seen.

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