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## Clinical study to look at treating degenerative disc disease by telomerase gene therapy

Degenerative Disc Disease (DDD) in humans correlates well with the shortening of telomeres in intervertebral disc cells. To study cause and effect of this correlation, human intervertebral discs be treated in a clinical study with a gene therapy that delivers the telomerase gene to the cells of the disc to produce telomerase activity and lengthen the cell's telomeres. Effects on disc size and back pain be measured as well as telomerase activity and telomere lengths. The role of telomere shortening and aging related syndromes (called telomeropathies). The lengthening of telomeres with the enzyme telomerase has been well documented and as a means to extend human health span and longevity as a means to promote cancer growth. This will be discussed in the presentation. Recent breakthroughs in gene therapy, especially using vectors derived from the Adeno Associated Virus, have enabled means of delivering genes to human cells in a manner that is far safer than ever seen before.

## Biography

Bill Andrews is the President and CEO of Sierra Sciences in Reno, Nevada, USA. He is also an Advisor for Libella Gene Therapeutics in New Zealand. In his 37 year biotech career, he has focused the last 25 years on finding ways to extend the human lifespan and healthspan through telomere maintenance. As one of the principal discoverers of both the RNA and protein components of human telomerase, he was awarded 2nd place as "United States Inventor of the Year" in 1997. He earned his PhD in Molecular and Population Genetics at the University of Georgia in 1981. Before starting Sierra Sciences in 1999, he served as a Senior Scientist at Armos Corporation and Codon Corporation, Director of Molecular Biology at Berlex Biosciences and at Geron Corporation and Director of Technology Development at EOS Biosciences. He is also a named Inventor on 50+ US issued patents on telomerase and author of numerous scientific research studies published in peer reviewed scientific journals.

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