Longer Life?

Will biotechnology stretch our legacies out longer, or are the ethical implications too damaging?

Although escaping mortality is out of the question, stretching its boundaries may not be, according to new discoveries in genetic research.

Geneticists discovered how to lengthen the life span of animals and insects by the alteration of a single gene. Though companies form to benefit from any future application to humans, some are raising questions about the ethical implications of such a process.

With the alteration of a specific gene called the daf-2, Cynthia Kenyon, the Herbert Boyer distinguished professor of biochemistry and biophysics at the University of California, San Francisco (UCSF), successfully lengthened the life span of insects (namely, nematode C. elegan worms) by six times—the equivalent of 500 human years.

“More startling,” reports Discover magazine, “the worms remained robust almost until they died.”

Startling as it may be, creating a longer life span for a worm doesn’t mean it will be easy to do the same for humans. But Kenyon is willing to move in that direction.

“Not very long ago, most people thought that aging was

something that just happened," says Kenyon on UCSF's neuroscience faculty Web site. But Kenyon found differently.

Kenyon, who U.S. News & World Report calls one of the "Best Minds: People to Watch" in 2004, works with several other geneticists to pioneer age-development research. She began experimenting with the lengthening of small worms' life spans 10 years ago while finishing her post-doctoral fellowship at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England. Based on her findings, Kenyon believes environmental cues and signals from the reproductive system affect the insects' daf-2 gene and that determines how long they live.

Kenyon co-founded Elixir Pharmaceuticals in hopes of creating a human anti-aging pill. She thinks the drug will target the daf-2 gene and other insulin receptors.

"If our company could make a pill, everyone would want it," Kenyon says in U.S. News & World Report.

But David Stevens, M.D., the executive director of the Christian Medical and Dental Association, isn't so quick to jump in the proverbial fountain of life.

"In the larger context," Stevens says, "working to find a genetic key to prolonged life is part of the intellectual movement attempting to improve on the human condition through reason."

Stevens says the idea of a prolonged life is a "Holy Grail of sorts" for those who don't believe in any existence after death.

Before such a pill materializes, society must confront ethical implications of prolonging life, but "a magic pill or injection is unlikely to develop due to many of these concerns," Stevens says. The conception also remains lodged in the future because biologists still don't know exactly what

controls the daf-2 gene in humans.

Daniel S. McConchie, director of public relations and public policy for The Center for Bioethics and Human Dignity, suggests a genetic intervention such as a life-lengthening pill wouldn't be much different than medical interventions we already accept.

"There is nothing wrong with eating well, exercising or medically intervening to live a better, longer, healthier life," McConchie says. "In Genesis, people lived many hundreds of years. The fall [of man] sentenced us to death, but not necessarily a short life. Believe me; we'll never be able to genetically engineer immortality."

Terry Dorian, author of Total Health and Restoration (Siloam), is one of those using exercise and current medical interventions to live a better, longer life. She eschews the idea of a gene-changing elixir. Instead, she relies on advances in nutrition.

"The greatest health problems that keep us from living longer lives are 85 percent diet- and lifestyle-related," Dorian says. "Integrated groups from the best schools and universities are already talking about living to 120 by changing dietary and lifestyle habits."

Dorian, who holds a Ph.D. from Louisiana State University, has studied health in different cultures for more than 20 years. She uses natural healing therapies and takes bioidentical hormones to improve her health.

She says most people could live years longer by eating foods dense in nutrients and low in calories. This not only lengthens life but also improves the quality of life.

"Enlightened people in the medical field are talking about quality and length at the same time," Dorian says. "We need to pay attention to what the Lord has shown us [about health] and

what we already know.”