Oregon National Primate Research Center Discoveries
(onprc.ohsu.edu)

- Battling AIDS: Research suggesting an important component of the immune system damaged by AIDS can possibly be replaced, suggesting a new treatment for the disease.

- Re-establishing fertility: Advancements in fertility research allowing women who become infertile while battling cancer to have children once they become cancer free. This is achieved by transplanting preserved ovarian tissue into a patient to jump start the fertility system.

- Strengthening the immune system: Research explaining how reduced caloric intake may slow aging and weakening of the immune system, therefore reducing risks of infection for aging Americans

- Combating the effects of smoking: Discovery of a treatment for counteracting some negative effects of nicotine in unborn babies when the mother refuses to stop smoking. Approximately one in ten pregnant women are known to smoke.

- Preventing premature birth: Discovery of a method for detecting intra-amniotic infections in pregnant women using state-of-the-art methods. The finding may result in the development of a test for these hard-to-diagnose, but common infections during pregnancy. Early testing followed by treatment could likely prevent numerous pre-term births and the problems associated with them.

- Combating genetic disease: In a discovery that has application to a wide range of genetic and degenerative diseases, ONPRC scientists have shown that genetic mutations that cause disease are actually caused by errors in protein folding. Misfolded proteins appear to be involved in a series of diseases including Alzheimer's and Parkinson's disease, cystic fibrosis, cataracts, nephrogenic diabetes insipidus and retinitis pigmentosa. In the case of one disease called hypogonadotropic hypogonadism, which causes male infertility, the scientists demonstrated that drugs can rescue the errant protein and make it function normally.

- Combating the threat of bioterrorism: Encouraging and important research findings which show how smallpox vaccination protection lasts many years longer than previously thought. This data may help better determine the needs and priorities of vaccination following a bioterrorist attack involving smallpox.

- Fighting multiple sclerosis: Research that has identified some of the key factors that prevent the repair of brain damage caused by multiple sclerosis (MS), complications of premature birth, and other diseases and conditions. The findings offer important clues about why the nervous system fails to repair itself and suggest ways that at least some forms of brain damage could be reversed.

- Measuring vaccine effectiveness: How certain white blood cells literally eat virus-infected cells while fighting disease at the microscopic level. The research not only helps provide a clearer understanding of the body's immune system, it also offers hope of a new method for gauging vaccine effectiveness.

- Battling Parkinson's disease: Discovery of a key gene that appears to control how stem cells become various kinds of brain cells. The finding has significant implications for the study of Parkinson's disease, brain and spinal cord injury, and other conditions or diseases that might be combated by replacing lost or damaged brain cells.

- Combating America's new epidemic – obesity: Several findings in this area including the role of the hormone leptin in causing/preventing obesity and how leptin resistance occurs and can be reversed and research into the natural hormone PYY which has the ability to cause limited weight loss.

- Protecting unborn children: ONPRC Research has shon that Overeating during pregnancy may have significant and numerous health impacts on an unborn child. The research demonstrated that the offspring of mothers who overeat are at risk for liver and pancreas damage. Both of which can contribute to early-onset obesity and diabetes. In addition, significant brain changes can occur in the offspring of some mothers who overeat. These changes take place in the hypothalamus, the region of the brain that controls weight regulation. The data suggest that children born to mothers who eat a high-fat diet may be predisposed to weight problems.

- Fertility preservation: Identification of a key gene that impacts the timing of puberty and can shorten the time span for reproduction

More on these discoveries appears at http://onprc.ohsu.edu
Recent science media coverage of ONPRC research has included The Scientist, Healthday News, New Scientist, Associated Press, Web MD, Psychology Today, Self Magazine, The Chicago Tribune, The Los Angeles Sentinel, USA Today, several national TV stations, plus local, regional and international media coverage and several Internet publications.