

# **Super Athletes: A Public Forum on Genetic Enhancement and Sport**

**Friday, February 11, 2005, Portland State University, Portland, Oregon**

Following is a summary (by category) of the issues (public values) raised during the open discussion which followed the (factual) remarks of panelists Ted Friedmann, M.D. – Director, Program in Gene Therapy, UCSD; Mari Holden – 2000 Olympic Silver Medalist in Cycling; Max Mehlman, J.D.-- Director, Law-Medicine Center and Professor of Biomedical Ethics, Case Western Reserve University.

## **Using Genetic Technologies to Enhance Athletic Performance**

### **Benefits**

#### **Winning**

- Nike ad (paraphrased): “Winning the silver” is really losing the gold.

#### **Achieving own peak performance**

- This reward is still there for clean athletes.

#### **Injury prevention**

- We should not deprive athletes of the best treatment for injuries, so long as the treatment is done openly.
- This is a boundary issue, because a treatment to prevent injuries (chronic joint problems, for example) can have enhancement side effects.

### **Costs**

#### **Physical**

- Negative side effects are of great concern to the genetics community.
- Steroids shrink the testicles.

#### **Social**

- The emphasis on winning has resulted in parents driving their children to succeed in athletics. Extrinsic incentives, such as athletic scholarships, compound the problem. Replacement of Olympic athletes by professional athletes as role models may contribute to the problem.

# Effects of Other Uses of Genetic Technologies to Enhance Performance

## Benefits

- Cognition can be enhanced. A mouse that is a smarter maze-runner has been created.
- What if hatred could be diminished genetically?

## Costs

- The eugenics ideal of improving the human race can easily be distorted by the prejudices of those making the decisions. In the first part of the twentieth century, some thought our society should remove the “undesirable traits” of immigrants, including “slovenliness” and “love of the sea.” Though the relevant science is better now, ethical problems remain.
- There can be negative side effects. The mouse that is a smarter maze-runner is also more sensitive to pain.

## Ethical Considerations

### **Innate differences**

- Innate differences in genetic endowment may, themselves, be said to unfair. Would fairness then require reducing them?

### **Ethical principles**

- Is ethics frozen in time? Does it change? Does it evolve?
- Healing is required by the ethics of medicine.

### **Nature’s Plan**

- Is it right to interfere with the Plan of Nature? We do that with hip replacements now.

### **“Gentlemanly” Sport**

- The idea of gentlemanly sportsmanship emerged only during the Victorian era. Is the value we place on it simply nostalgia? Is the idea of gentlemanly sportsmanship simply an expression of the times that it is now time to set aside, or is it [more like the abolition of slavery] a genuine moral advance that it would be wrong to retreat from?
- We already use fiberglass poles. What’s the difference?

## **Uncertainty**

- There remains a good deal of uncertainty, even among geneticists, regarding the full range of consequences of genetic intervention. This uncertainty creates angst in the general population.
- The Precautionary Principle is currently being championed (and has actually been adopted in some areas of government) as the ethical approach to uncertainty in public policy decision-making: Do not adopt any policy unless you are morally certain that no unacceptable harm will result. This is similar to the Hippocratic principle: First, do no harm.

## **Germ-Line Modifications**

- Germ-line modifications would redefine what it means to be human.
- Any decision to introduce a germ-line modification would have the distinctive ethical feature that it would impact countless generations who have no voice in the decision and provide no informed consent.
- Even a desirable change in human nature, such as reducing hatred, might have unintended side effects. Here, too, the Precautionary Principle should be applied.
- Somatic manipulations can have unintended effects on the germ line. Again, the Precautionary Principle should be applied.

## **Legal Considerations**

- Mari Holden missed what would have been a celebration of a rightful cycling win and also suffered a two-year delay in getting her jersey. Are these damages recoverable under tort law?
- No one knew of any case where such a suit had been brought, although Marion Jones once threatened to sue WADA. (She didn't do so for reasons no one could remember.)
- It is now possible to bring international lawsuits.

## **Testing**

- We will probably be able to test for gene doping. It will be possible to test for foreign genes and also body-wide changes, such as in blood cells.

## **Public Education**

- The public needs to be educated about these matters.