



IN CASE YOU HAVEN'T “HERD”



Tufts
UNIVERSITY
Environmental Health & Safety

VOLUME IV, ISSUE I
MARCH 2012

Factoring Safety into your Exercise Plan

By Stephen R. Larson

Physical activity is any movement of the body or a part of the body caused by contractions of muscles. Exercise is a specific type of physical activity that is planned to improve or maintain aerobic condition, strength, balance or flexibility. In short, to improve both mental and physical health. However, some individuals sustain preventable injuries and infections in the process of exercising. Exercises can be performed at home or at a gym. Exercises can be performed indoors or outdoors. Exercises can involve machines or be performed with no machines. In 2008, the federal government issued recommendations that adults engage in exercise for 30 minutes at least 5 days per week to maintain basic health. For persons who want to lose body weight, some recommend doubling this time from 150 minutes to 300 minutes.

For some individuals, exercising at home is not an option because of space, proximity to neighbors and other factors. For these individuals, the gym is the only option for exercising using machines. The most common exercise machines in the gym are the treadmill, the elliptical trainer, the stationary cycle, the weight machines and the rowing machines. These devices are typically commercial quality and



MRSA is resistant to many antibiotics and requires special treatment. To protect yourself, avoid sharing towels, razors, uniforms, and other items that touch your skin. WebMD

constructed of stronger and more durable materials. Injuries caused by defective exercise machines occur due to poor and infrequent maintenance and are not common.

Are communicable disease a risk in the gym?

In March 2012, Dr. Ryan (U. Florida) reported that no Methicillin-resistant staphylococcus aureus (MRSA) bacteria were isolated from 240 samples of surfaces of exercise equipment. It is not clear from the scientific literature that one individual has been infected with MRSA at a gym either from contact with contaminated exercise equipment or while using the locker-room to change from street clothes to exercise clothes and performing personal functions such as a showering.

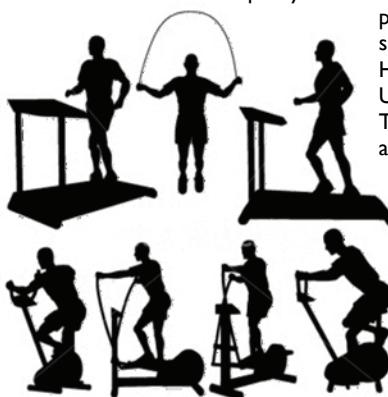
However, the gym industry in the US is valued at \$20 billion per year. The threat of infection may adversely affect the decision to use a gym for exercise.

In response to this concern, firms have been organized such as Zero-Blast Germ Exterminators based in Dallas TX. This firm will sample facility and equipment surfaces to determine if cleaning and

disinfection practices reduce the bacterial concentration to some “safe” level. This and other firms use a device invented in 1971 to detect bacteria on distant planets such as Mars. Adenosine triphosphate or ATP is any energy storage molecule that exists in all living cells: microbial, plant and animal. It is also exists in both living and dead cells. By mixing materials scraped or rubbed off surfaces, it is possible to measure the number of cells or bacteria by the amount of light produced by a chemical reaction that uses ATP.

The most common exercise machines in the home are the same as the gym. In 2005, 33% of exercisers used a treadmill with 6% using either a stationary cycle or an elliptical trainer. It is estimated that 33% of US households own and use exercise machines or free weights.

In the UK in 2009, there are 36 million adult women. Of this number 8.7 million belong to gyms while 13 million exercise at home. In that same year, 1.5 million Nintendo Wii Fit games were sold.



Inside this issue:

- | | |
|--|---|
| Criminal Charges Filed Against Principal Investigator in the UCLA Case | 2 |
| Machine Tool Safety | 3 |
| Does Tufts University have a Workplace I2P2? | 4 |
| Old Laboratory Chemicals - A Hazardous Waste | 4 |
| Chemical Management at Tufts: Less is Better | 5 |

- | | |
|---|---|
| Indoor Air Quality and the Limits of Testing | 5 |
| External Radiation Dosimetry | 6 |
| Shipping Lithium Batteries | 7 |
| Autoclaves and their use for Biohazardous Waste | 7 |



DON'T GIVE BACTERIA A FREE RIDE.

WASHING YOUR HANDS WITH SOAP AND WATER IS ONE OF THE BEST WAYS TO PREVENT DISEASES.



www.cdc.gov/mrsa

