

Exercise may aid cancer treatment

By Gretchen Reynolds, New York Times

In a study involving mice, aerobic exercise slowed the growth of breast cancer tumors and made the cancer more sensitive to chemotherapy. The results raise the possibility that exercise may change the biology of some malignant tumors, potentially making them easier to treat.

Scientists and clinicians have known for some time that solid tumors can create their own, peculiar ecosystem within the body. As a tumor grows, it sends out biochemical signals that prompt the creation of additional blood vessels to provide the expanding tumor with more oxygen. Oxygen is, of course, important for cell health, including in normal tissue.

But in some tumors, these new blood vessels begin to proliferate so wildly that they create a “jumble and tumble” of tubes that can curl around and choke one another, reducing blood supply and oxygen to the tumor, says Mark W. Dewhirst, the Gustavo S. Montana Professor of Radiation Oncology at Duke University School of Medicine and senior author of the study.

As a result, the tumor becomes hypoxic; it exists in an environment with little oxygen.

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