

The Night Shift: A Talk by Dr. Brian Goldman

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Dr. Brian Goldman delivered an exciting talk at the UBC Life Sciences Centre on March 27th, 2011. It was also broadcast to distributed sites at Prince George, Terrace, and Victoria. This talk was hosted by Dr. Carol-Ann Courneya and Dr. Andrew Seal. According to Dr. Courneya, the aim of the talk was to “focus on maintaining a love of and passion for arts and humanities throughout [medical and dental] training and practice.” Humanities were reported to nurture and maintain empathy, professionalism, and self-care in students and physicians.¹ The talk was strategically scheduled on the day after the highly anticipated Spring Gala 2011, which celebrated the astounding artistic talents of UBC medical and dental students.

Dr. Goldman is an Emergency Room (ER) physician working at Mt. Sinai Hospital in Toronto, ON. Besides medical practice, he has a passion for journalism. He is a CBC radio broadcaster on the show “White Coat, Black Art” and author of the book entitled “The Night Shift”, both of which take listeners and readers on to “[his] side of the gurney.”

Dr. Goldman began the talk by sharing his training in medicine and how his passion of writing intertwined with his undergraduate and medical studies. During his residency training, his passion in journalism landed him in a continuing education course in writing which began his career in journalism.

Working in the ER is not only a vocation for Dr. Goldman. He also gets his inspiration for writing there, thus providing him the opportunity to be an effective journalist. His goal is to bring out the voices of nurses, paramedics, physicians, and other healthcare providers through his radio show.

Authenticity, brutal honesty, and medical futility were the three main purposes for Dr. Goldman’s broadcasting career. He discussed the challenges in satisfying two types of listeners of his show: patients and healthcare providers. He played recordings from his radio show to illustrate how he, in presenting the different perspectives, could carry out his three missions.

Competency in reflective practice is valued as one of the essential attributes of physicians, and Dr. Goldman highlighted its importance in one’s medical career.² In our interview after the talk, Dr. Goldman elucidated that

It is never too early to develop reflectiveness in our work... there is a general lack of reflection in postgraduate training and in practice. There has been a bias against reflection [because some physicians] equate reflectiveness as self



In this photo: Dr. Brian Goldman (Left) and Dr. Carol-Ann Courneya (Right).

doubts. We have developed an unhealthy shame around our feelings, our thoughts, and human frailty.

Physicians with literary careers have the privileges to include candid medical stories in their work.³ Dr. Goldman explained that they needed to write without violating patient confidentiality. When writing his book, his strategy to protect patient confidentiality was to use stories which were inspired by real people with disguised details, thus being unrecognizable by the patients and their families. Dr. Goldman also warned the audience about publishing on social networking sites where patient confidentiality could easily be breached. Having dual roles as “a compulsive storyteller” and “a sworn guardian of [his] patient confidentiality,” he is still trying to figure out where the balance lies.

Dr. Goldman closed his talk by asking us to continue to nurture our artistic endeavors in our future careers. Although it was hard work alongside his other responsibilities, he still made journalism possible around his busy schedule. Dr. Goldman also left UBC medical students with an important advice: “Be true to yourself, be honest. Keep doing what makes you feel passionate. But above all, find the truth in what you do, and follow that.”⁴

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Endurance Exercise, the Fountain of Youth, and the Mitochondrial Key

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Scientists have been searching for the proverbial fountain of youth for centuries, hoping that a newly discovered drug or exotic plant would hold the key to anti-aging riches. However, a recent study from Canada provides powerful evidence that the key was within each and every one of us the entire time.


Led by Dr. Mark Tarnopolsky, Professor of Pediatrics and Medicine, a team of researchers from McMaster University's Michael G. DeGroot School of Medicine recently published a study that found endurance exercise can prevent the signs of premature aging in virtually every tissue and organ system in the body. Published in the *Journal of Proceedings of the National Academy of Sciences of United States of America*, the study found that mice that were genetically engineered to age faster were protected against the phenotypic and biologic changes of aging by engaging in regular endurance exercise.¹ In an era that has seen the epidemic emergence of chronic diseases—likely a result of increasing sedentary behaviour, excess caloric intake, and obesity—this study should help promote the benefits of exercise for all those searching to stay forever young.²

Epidemiological evidence has established that endurance training greatly reduces the risk of chronic diseases and decreases mortality in humans; however, little is known about how endurance training affects aging.^{3–14} The mitochondrial theory of aging postulates that lifelong accumulations of mitochondrial DNA mutations lead to a cellular energy crisis, resulting in progressive decline in tissue and organ function, and ultimately accelerating the aging process. Based on this theory and known evidence that exercise can induce mitochondrial biogenesis and metabolism, Dr. Tarnopolsky and his team of researchers set out to prove that endurance exercise could help prevent premature aging in mice.^{15–19}

The study used mice with genetically modified dysfunctional mitochondria which caused them to age prematurely. Starting at three months of age, or about 20 human years, the mice were randomly assigned to moderate intensity endurance exercise

three times per week for 45 minutes or to a sedentary group. The mice were studied over the next five months until the age of eight months, or approximately 60 human years, with startling findings.¹

Although both groups of mice were genetically disadvantaged to prematurely age, the mice that engaged in endurance exercise looked as healthy as normal mice while the sedentary group showed many phenotypic features of aging, including hair loss, greying, physical inactivity, and social isolation. Furthermore, the exercised mice were protected against early mortality and multi-system organ degeneration, such as hearing loss, cataracts, sarcopenia, brain atrophy, cardiomyopathy, anemia, and infertility. Compelling evidence revealed that endurance exercised mice had decreased accumulations of mitochondria DNA mutations, increased mitochondrial biogenesis, and decreased mitochondrial apoptosis,¹ further highlighting the potential role of mitochondria in the aging process.

These findings strengthen the mitochondrial theory of aging, providing evidence that endurance exercise may prevent premature aging through the maintenance and recovery of mitochondrial function, which is crucial for organ health. “Every part of the body was protected by exercise,” said Dr. Tarnopolsky, who believes “that exercise is the most potent anti-aging therapy available today and likely forever.”²⁰ The poet John Gray wrote in 1716: “Rosy-complexion'd health thy steps attends, and exercise thy lasting youth defends.”²¹ It is interesting to think that maybe he was right all along. 

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