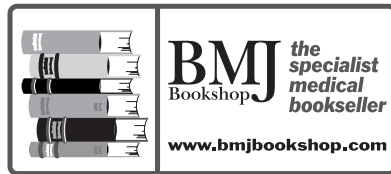


PostScript

BOOK REVIEWS



Your Genetic Destiny: Know Your Genes, Secure your Health, Save Your Life

Aubrey Milunsky. Oxford: Perseus Publishing. 2001. ISBN 0738203777.

Genes are much in the news, creating curiosity, concern, hope, and confusion. "Contrary to what you might think, your genetic destiny is not preordained ... despite our genetic blueprints, there is much we can do to secure our health - and even to save our lives or those of our loved ones" (page xiii). People who are concerned about their "genetic destiny" will find much of interest in this book. It is intended for the general public. It can be read from cover to cover, probably most often as a textbook, but lay readers will plot a course through the book that speaks to their individual interests.

One such course might be: Preface; What you should know and why; Personal considerations and your family history; The threads of your life, explaining basic genetics; The blueprints for life chapters 6-8 (explaining inheritance); Random chapters chosen from chapters 9 to 20, depending on family issues or fears; Aging and longevity; One or more chapters from Avoidance and prevention of genetic disorders if childbearing is a concern; Genes, ethics, law, and public policy; Treatment of genetic disorders.

The book takes a practical approach, concentrating on the information needed to prevent, avoid, and treat the disorders that may be lurking in your genes. The interaction between genes and the environment is stressed many times. "Studies of several hundred sets of twins from Sweden suggest that ageing is influenced by genes about one-third of the time, and by lifestyle, some two-thirds" (page 271). While the influence of the genetics is strong, people are shown that they can usually influence the outcome through their own choices and actions, using the genetic

blueprint as an early warning system. Some of these genetic factors are familial; others (like ageing) are universally built into the genetic system. "The elderly segment of the population ... has a cancer risk some 11 times greater than those under 65 years of age. This risk applies to all major cancers. ... Seniors need to pay attention to their family history and personal health, and pay annual visits to their physicians. No symptoms or signs should be ignored, and blood tests for cholesterol, blood sugar, and prostate specific antigen, as well as other tests including mammography and colonoscopy, should be pursued on a regular cycle and without delay" (pages 276-277).

People grappling with known genetically caused diseases will find explanations of the genetic terms, as well as contextual discussions for DNA testing and genetic counselling. "Advances in biotechnology over the past decade has made it increasingly possible to know our health risks and take preventive action" (page 309).

"This book has been dedicated to the primary goal of medical genetics - that is, to help individuals and families achieve a healthy life with healthy children by being well informed about the subject and its new developments" (page 331). Occasionally, the author strays a bit far for my taste into the realm of directive counselling. "Not bothering to determine all of the risks and options prior to conceiving a child who may be doomed to a lifetime of pain and suffering could be construed as a form of child abuse. There is little solace in the realisation that up to 50 percent of pregnancies are unplanned" (page 300). He may be forgiven because he includes concern for the health of the mother (Genetic disorders that pregnancy may aggravate, page 301) and of the unborn fetus. "My research colleagues discovered a tobacco specific carcinogen in the amniotic fluid surrounding the fetus as early as the fifteenth week of pregnancy, in mothers who smoked during pregnancy. We are now studying the potential lifelong implications, to determine whether exposed offspring are at increased risk of cancer" (page 301). We should keep in mind that while some tools exist, they are mostly still imperfect at best, available to only a small fraction of the population, and no one should be obligated or compelled to use them. "Although every geneticist hopes to prevent or avoid both the occurrence and recurrence of serious genetic disorders or mental retardation, the consensus in the Western world is not to direct the decisions of those who seek information about genetic diseases" (page 324).

His most telling message is that tackling these questions in advance of any pregnancy

is the preferred method. "Pregnancy is not the time to first inquire about your family medical history, nor is it the most appropriate time to initiate or change a treatment schedule [of medications which may affect the fetus]. Women who wish to exercise some control over their reproductive destiny and to guarantee the best possible outcome will plan their pregnancies and seek preconception care and counseling. After the birth of a child with a fatal or lifelong defect, no one wants to hear the refrain, 'It is, but hadn't out to be!'" (page 305). The problem, of course, is that there is never a "guarantee" in child bearing, for any of us. We can influence the odds, but we cannot achieve a "guarantee". Any patient or doctor who speaks in these terms is setting the scene for disappointment and potential legal action. Ordinary people understand "guarantee" to mean that if the product is defective, you can take it back. In the USA there has already been one "wrongful birth" lawsuit, and ten US states provide for "wrongful adoption" action where the adoption agency has - through negligence or fraud - withheld health status and genetic background (page 340). I believe this is a dangerous path to tread. While we may be diligent in excluding one particular characteristic, another characteristic that we do not know to monitor may also create a less than optimal outcome. Whatever we humans do, God and chance will still play leading roles.

Doctors are increasingly using DNA testing to make differential diagnoses where there is suspicion of a condition for which the single genetic cause is known. "Given the well known study from Johns Hopkins School of Medicine showing that about one-third of DNA reports are not correctly interpreted by physicians, individuals are advised to seek consultation with a clinical geneticist" (page 312). "Doctors the world over have until recently been inadequately trained in medical genetics. This basic inadequacy has been compounded by the phenomenal explosion of knowledge in human genetics, which has even geneticists scrambling to keep up" (page 325).

Despite my occasional concerns about his phrasing, Milunsky has done an excellent job of presenting this very complex topic in a way that is relevant and compelling for people who are not medical professionals. This book should certainly be in every public library. Doctors may wish to recommend it to their more curious patients with a desire to pursue this subject. It is written to be accessible to the general public. It is also a comprehensive text that might be used in an educational setting.

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