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Teaching Lecture

2

Genetic developments and nursing practice: The future is closer than you think!

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Developments in the micro-biological sciences and the technologies that emerge from them are changing the face of the modern world. Genetics in specific have achieved a great deal but will continue to make great progress in the next decade especially influencing the fields of agriculture, food processing and health care.

The identification of genes and their function have resulted in the classification of more than 5000 diseases with genetic origins including cancer. Identifying genes that are involved in cancer can create new possibilities to treat the disease itself instead of focussing on arresting disease or treating the consequences of the disease.

Genetics will have a great impact on the care of the oncology patient and how that care will be delivered. Small steps are being made in that direction. Researchers are beginning to understand how the nuances of genetic differences between people will translate into different health outcomes. Future scenarios in oncology may focus more on genetically based avoidance of risk, prevention, early detection, diagnosis, gene therapy treatment and novel supportive care strategies. Oncology nurses will be faced with new challenges in preparing for and providing the the best care for patients and their families.

The potential for change is great, and there are many choices that must be made by physicians and researchers for future developments in biotechnology. Unfortunately, there is too little collaboration with nurses on these issues. This forces nurses into a reactionary role which could be detrimental to adequately prepare for the changes needed. "Technologies must be perceived to be the slaves of society and not its master".

Biotechnology and genetics increase our understanding of the mechanisms of life and can transform and save lives. Therefore, it is important for nurses to become more aware and involved with the issues to safeguard and anticipate the care needed for individuals treated with these new technologies.

[1] Desmarescaux P., Hodgson J., Building a common future. *Nature Biotechnology* Vol 17 Supplement 1999