



Editorial

Many nurses provide care within the ordering scope of physicians and this traditional role has shaped the public image of nurses as care providers

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ABSTRACT

Cancer research is research into cancer to identify causes and develop strategies for prevention, diagnosis, treatment, and cure. Cancer research ranges from epidemiology, molecular bioscience to the performance of clinical trials to evaluate and compare applications of the various cancer treatments. These applications include surgery, radiation therapy, chemotherapy, hormone therapy, immunotherapy and combined treatment modalities such as chemo-radiotherapy. Starting in the mid-1990s, the emphasis in clinical cancer research shifted towards therapies derived from biotechnology research, such as cancer immunotherapy and gene therapy. Cancer research is done in academia, research institutes, and corporate environments, and is largely government funded. Cancer research encompasses a variety of types and interdisciplinary areas of research. Scientists involved in cancer research may be trained in areas such as chemistry, biochemistry, molecular biology, physiology, medical physics, epidemiology, and biomedical engineering. Research performed on a foundational level is referred to as basic research and is intended to clarify scientific principles and mechanisms.

Keywords: Physician, midwife, healthcare, hospital, practical nurse, nurse education.

INTRODUCTION

Intensive care medicine, also called critical care medicine is a medical specialty that deals with seriously or critically ill patients who are at risk of recovering from conditions that may be life-threatening it includes providing life support, invasive monitoring techniques, resuscitation, and end-of-life care. Doctors in this specialty are often called intensive care physicians, critical care physicians or intensivists. Intensive care relies on multidisciplinary teams composed of many different health professionals. Such teams often include doctors, nurses, physical therapists, respiratory therapists, and pharmacists, among others. They usually work together in Intensive Care Units (ICUs) within a hospital patients are admitted to the intensive care unit if their medical needs are greater than what the general hospital ward can provide. Indications for the ICU include blood pressure support for cardiovascular instability (hypertension/hypotension), sepsis, post-cardiac arrest syndrome or certain cardiac arrhythmias other ICU needs include airway or ventilator support due to respiratory compromise. The cumulative effects of multiple organ failure more commonly referred

to as multiple organ dysfunction syndrome, also requires advanced care. Patients may also be admitted to the ICU for close monitoring or intensive needs following a major surgery. There are two common ICU structures: closed and open. In a closed unit, the intensivist takes on the primary role for all patients in the unit. In an open ICU, the primary physician who may or may not be an intensivist, can differ for each patient. There is increasingly strong evidence that closed units provide better patient outcomes patient management in intensive care differs between countries. Open units are the most common structure in the United States, but closed units are often found at large academic centers Intermediate structures that fall between open and closed units also exist.

Intensive care usually takes a system-by-system approach to treatment. In alphabetical order, the nine key systems considered in the intensive care setting are: Cardiovascular system, central nervous system, endocrine system, gastrointestinal tract (and nutritional condition), hematology, integumentary system, microbiology (including sepsis status), renal (and metabolic), and respiratory system. As

such, the nine key systems are each considered on an observation–intervention–impression basis to produce a daily plan.

CAUSES AND DEVELOPMENT OF CANCER

Research into the cause of cancer involves many different disciplines including genetics, diet, environmental factors (i.e. chemical carcinogens). In regard to investigation of causes and potential targets for therapy, the route used starts with data obtained from clinical observations enters basic research and once convincing and independently confirmed results are obtained proceeds with clinical research involving appropriately designed trials on consenting human subjects with the aim to test safety and efficiency of the therapeutic intervention method. An important part of basic research is characterization of the potential mechanisms of carcinogenesis in regard to the types of genetic and epigenetic changes that are associated with cancer development. The mouse is often used as a mammalian

model for manipulation of the function of genes that play a role in tumor formation, while basic aspects of tumor initiation, such as mutagenesis are assayed on cultures of bacteria and mammalian cells. The goal of oncogenomics is to identify new oncogenes or tumor suppressor genes that may provide new insights into cancer diagnosis predicting clinical outcome of cancers and new targets for cancer therapies. As the cancer genome project stated in a 2004 review article, "a central aim of cancer research has been to identify the mutated genes that are causally implicated in oncogenesis (cancer genes). The cancer genome atlas project is a related effort investigating the genomic changes associated with cancer, while the COSMIC cancer database documents acquired genetic mutations from hundreds of thousands of human cancer samples.