

UNIT – I

INTRODUCTION

Clinical engineering: Definition, Evolution, Role, Responsibilities, Functional status, History of clinical engineering and Technology in Health Care System, Enhancing patient safety

ENHANCING PATIENT SAFETY:

Over the past decade there has been steadily increasing concern regarding patient safety. The Institute of Medicine (2000) estimated that medical errors as cause 44,000 to 98,000 deaths annually in U.S. hospitals. The objectives are to learn from these errors and to find ways to prevent them from recurring.

Joint Commission on Accreditation of Healthcare Organizations (2001) insist on making safety a fundamental principle of patient care.

What can be done now to enhance patient safety?

- First, we can improve our ability to learn from mistakes. Skillful investigation of incidents and responsible sharing of data will help us to identify the root causes of error and to find ways to prevent them from recurring.
- Second, identify existing knowledge and resources that can applied to the problem. To achieve this improved cooperation and coordination among health care professionals is considered vital.
- Finally, we can improve the health care delivery system itself.

Medical Technology and Patient Safety

A defining characteristic of the modern health care delivery system is the common use of medical technology. Broadly speaking, medical technology includes not only medical devices, drugs, and biologics, but also the medical and surgical procedures that they enable and the organizational and support systems within which they are used. Diagnosis, monitoring, treatment, and rehabilitation all rely on complex and sophisticated medical technologies.

Mainly failure is due to two reasons,

1. Failure of medical devices
2. Less knowledge in medical technology

The American College of Clinical Engineering (ACCE):

ACCE has identified several strategies that it will adopt

- To seek partnerships at national and international levels to pursue common goals for enhancing patient safety
- To provide new strategies and methodologies designed to enhance patient safety
- To prepare a directory of publications and other resources for reference and application by health care professionals in enhancing patient safety
- To develop educational programs that improve the skills of health care professionals and their ability to participate in efforts to enhance patient safety

The main responsibility of a clinical engineer must be ‘ to strive to prevent a person from being placed at risk of injury due to dangerous or defective devices or procedures.’”