

TRAINING FOR THE HEALTH SECTOR
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ENDOCRINE DISORDERS



**World Health
Organization**

Children's Health and the Environment
WHO Training Package for the Health Sector
World Health Organization
www.who.int/ceh

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<<NOTE TO USER: Please add details of the date, time, place and sponsorship of the meeting for which you are using this presentation in the space indicated.>>

<<NOTE TO USER: This is a large set of slides from which the presenter should select the most relevant ones to use in a specific presentation. These slides cover many facets of the problem. Present only those slides that apply most directly to the local situation in the region.>>

<<NOTE TO USER: This module presents several examples of risk factors that affect development, you can find more detailed information in other modules of the training package that deal with specific risk factors, such as lead, mercury, pesticides, persistent organic pollutants; or disease outcomes, such as developmental origins of disease, reproductive effects, neurodevelopmental effects, immune effects, respiratory effects, and others.>>

Endocrine disorders

LEARNING OBJECTIVES

- ❖ To understand the anatomy and functioning of the endocrine system
- ❖ To describe endocrine diseases that could be linked to the environment
- ❖ To present current knowledge of endocrine disrupting chemicals

<<READ SLIDE>>

Endocrine disorders

OVERVIEW

- ❖ Anatomy and physiology of the endocrine system
- ❖ Major endocrine diseases in children, such as:
 - ❖ Thyroidal dysfunctions
 - ❖ Diabetes
 - ❖ Obesity
 - ❖ Precocious puberty
 - ❖ Hypospadias and cryptorchidism
 - ❖ Endocrine cancers
- ❖ Endocrine disrupting chemicals

<<READ SLIDE>>

<<NOTE TO USER: If your audience is already familiar with the endocrine system, you may skip the introductory slides.>>

Endocrine disorders

THE ENDOCRINE SYSTEM

Major glands that make up the human endocrine system are:

- ❖ **Hypothalamus**
- ❖ **Pituitary**
- ❖ **Thyroid**
- ❖ **Parathyroids**
- ❖ **Adrenals**
- ❖ **Pineal body**
- ❖ **Reproductive glands, which include the ovaries and testes**

The pancreas is also part of this hormone-secreting system, even though it is also associated with the digestive system because it also produces and secretes digestive enzymes.

Although the endocrine glands are the body's main hormone producers, some non-endocrine organs — such as the brain, heart, lungs, kidneys, liver, thymus, pancreas, skin, and placenta — also produce and release hormones.

Endocrine disorders



C Alonzo



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HORMONES

- ❖ The word hormone is derived from the Greek "*hormao*" meaning "I excite or arouse"
- ❖ Hormones communicate this effect by their unique chemical structures recognized by specific receptors on their target cells, by their patterns of secretion and their concentrations in the general or localized circulation

<<READ SLIDE>>

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Endocrine disorders

HORMONES - FUNCTIONS

- ❖ Reproduction and sexual differentiation
- ❖ Development and growth
- ❖ Maintenance of the internal environment
- ❖ Regulation of metabolism and nutrient supply



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Endocrine disorders

HORMONES - FUNCTIONS

- ❖ The endocrine system keeps our bodies in balance, maintaining homeostasis and guiding proper growth and development
- ❖ A single hormone may affect more than one of these functions and each function may be controlled by several hormones



Hormone functions can be broadly grouped into several categories. For example, thyroid hormone is essential in development as well as many aspects of homeostasis and metabolism, while glucocorticoids, such as cortisol, are important both in growth and nutrient supply and are also modulators of immune function. The roles several hormones play in one function is exemplified by the control of blood glucose that involves the pancreatic peptide insulin and its counter regulatory hormone, glucagon, as well as cortisol, growth hormone and epinephrine. Hormones act in concert and thus, an abnormality in a controlled variable, such as blood glucose concentration may result from defects in the control of any one of several hormones.

Image: WHO

Endocrine disorders

CHALLENGES WITH THE ENDOCRINE SYSTEM

- ❖ Too much or too little of any hormone can be harmful to the body
- ❖ If the pituitary gland produces too much growth hormone, a child may grow excessively tall
- ❖ If it produces too little, a child may be abnormally short

Controlling the production of or replacing specific hormones can prevent many endocrine disorders in children and adolescents.

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_29166

