HORMONES
Lesson 3 (Part 1) – Reading

READING: THE DARK SIDE OF HORMONE HISTORY

Instructions: Read ALL six texts carefully, then complete the tasks below.

TEXT A: The Puerto Rico Pill Trials (1950s)

Before the contraceptive pill was sold to the public, it needed to be tested. In the 1950s, American scientists chose Puerto Rico for their trials. They selected poor women from rural areas who had little education and limited access to healthcare. These women were not told they were part of an experiment — they believed they were receiving a new medicine to help them. Many experienced severe side effects: nausea, headaches, dizziness, and blood clots. Three women died during the trials, but no autopsies were performed to determine if the pill was responsible. Despite these ethical problems, the research continued. The contraceptive pill was eventually approved and changed women's lives forever — but it was built on the suffering of women who never gave informed consent.

TEXT B: The Cadaver Hormone Tragedy (1960s-1980s)

Before scientists could synthesize growth hormone in laboratories, the only way to obtain it was from human corpses (cadavers). Children with growth hormone deficiency — a condition causing extreme short stature — received injections of hormone extracted from the pituitary glands of dead bodies. The treatment worked: children grew taller. However, some cadavers were infected with Creutzfeldt-Jakob Disease (CJD), a fatal brain disorder with a very long incubation period of 20-30 years. By the time doctors understood the connection, hundreds of patients worldwide had been infected. Many died years later from a disease they received as children while trying to grow normally. Synthetic growth hormone, introduced in 1985, finally ended this tragic practice.

TEXT C: The East German Doping Machine (1970s-1980s)

In East Germany (the GDR), the government ran a secret state-sponsored doping program called "State Plan 14.25." Young athletes — some as young as 11 years old — were given blue pills that coaches called "vitamins." In reality, these pills contained Oral-Turinabol, an anabolic steroid that dramatically increases muscle mass and strength. The athletes were never told what they were taking. East German athletes won hundreds of Olympic medals, but the price was devastating. Female athletes developed deep voices, facial hair, and infertility. Many suffered liver damage, heart problems, and severe psychological disorders. Some athletes later had children with birth defects. The program was only exposed after German reunification in 1990, when secret documents were discovered.

TEXT D: The DES Tragedy — "Wonder Drug" for Pregnancy (1940s-1970s)

Diethylstilbestrol (DES) was a synthetic estrogen prescribed to millions of pregnant women between 1940 and 1971. Doctors believed it prevented miscarriages and pregnancy complications. Pharmaceutical companies marketed it as completely safe. However, DES was never properly tested. In 1971, researchers discovered a shocking connection: daughters of women who took DES during pregnancy had a dramatically increased risk of a rare vaginal cancer. But the damage went further. "DES daughters" also suffered higher rates of infertility, ectopic pregnancies, and premature births. "DES sons" had increased rates of testicular abnormalities. The effects even passed to the third generation — the grandchildren of women who took DES. An estimated 5-10 million people were exposed to DES worldwide.

TEXT E: Insulin and Animal Experiments (1920s)

Before 1921, a diagnosis of Type 1 diabetes was a death sentence. Children would waste away, unable to use the sugar in their blood for energy. Then Frederick Banting and Charles Best, working at the University of Toronto, made a breakthrough. They surgically removed the pancreas from dogs, causing the animals to develop severe diabetes. Then they extracted a substance from healthy dog pancreases and injected it into the diabetic dogs. The dogs recovered. This substance was insulin. Their first human patient was 14-year-old Leonard Thompson, who was dying and weighed only 29 kg. After receiving insulin, his blood sugar dropped and he eventually lived another 13 years. Banting won the Nobel Prize in 1923. Their work has saved millions of lives — but it required painful experiments on hundreds of dogs.

TEXT F: Thalidomide — The Sleeping Pill Disaster (1950s-1960s)

Thalidomide was marketed in the late 1950s as a safe sleeping pill that also helped with morning sickness in pregnant women. The drug affected hormone receptors and was sold in 46 countries. Doctors believed it was completely harmless because it had been tested on animals without any visible problems. But thalidomide had a terrible secret: it interfered with fetal development during a critical window of pregnancy. Babies were born with severe birth defects — shortened or missing limbs (phocomelia), damaged internal organs, and other abnormalities. Over 10,000 children were affected worldwide before the drug was withdrawn in 1961. The thalidomide tragedy changed pharmaceutical regulation forever. Today, all new drugs must undergo rigorous testing, including specific tests for effects on pregnancy.

Reading Comprehension Quiz

Part A: True (T) or False (F)?

Instructions: Write T (True) or F (False) based on the texts.

№	STATEMENT	T / F
1	The women in Puerto Rico knew they were participating in a medical experiment.	
2	Creutzfeldt-Jakob Disease has a short incubation period of 1-2 years.	
3	East German athletes were told the blue pills were vitamins.	
4	DES was tested extensively before being marketed to pregnant women.	
5	Leonard Thompson was Banting and Best's first human patient.	
6	Thalidomide was never tested on animals before being sold.	

Part B: Multiple Choice

Instructions: Choose the best answer and write the letter.

7. What was the main source of growth hormone before 1985?

(A) Synthetic laboratories
(B) Animal pancreases
(C) Human cadavers
(D) Plant extracts

Answer: _____

8. What is the medical name for the birth defect caused by thalidomide?

(A) CJD
(B) Phocomelia
(C) Hypoglycemia
(D) Hypertrophy

Answer: _____

9. How many generations were affected by DES?

(A) One
(B) Two
(C) Three
(D) Four

Answer: _____

10. What happened to Frederick Banting after discovering insulin?

(A) He was arrested
(B) He won the Nobel Prize
(C) He continued testing on humans
(D) He moved to Germany

Answer: _____

Part C: Matching

Instructions: Match each case with its key outcome. Write the letter.

CASES	OUTCOMES
1. Puerto Rico Trials _____	A. Led to stricter drug testing regulations
2. East German Doping _____	B. Hundreds of Olympic medals, devastating health effects
3. Thalidomide _____	C. Saved millions of lives, raised animal ethics questions
4. Insulin Discovery _____	D. Contraceptive pill approved without informed consent