



NFB FILM

STUDY GUIDE

THE QUEST (The Discovery of Insulin)

*Black & White — 37 minutes
Produced by the National Film Board of Canada, 1959.*

Suggested Uses: Curriculum enrichment in Biology, Health and Guidance, and Science classes in junior and senior high school.

SYNOPSIS

THE QUEST provides an informative and exciting look at the man behind the discovery of insulin — Dr. Frederick Banting. With his young associate Charles Best, Dr. Banting is seen working against unsurmountable odds including time, limiting means and the skepticism of his colleagues in the medical profession. After several weeks of trial and error, success finally comes with the great discovery which permits the lowering of the high blood sugar content in diabetes.

CONCEPTS

The following are the main learning concepts presented in the film. These points should be clear before showing the film, because by knowing them an accurate judgment may be made of the extent to which the film will be of use in the class. Some of these concepts are more difficult than others and their degree of application will be governed by the grade level at which the film is used:

1. An excessive amount of sugar in the blood stream produces the condition known as diabetes.
2. Before the discovery of insulin, diabetes in the young was considered fatal.
3. The cause of diabetes was unknown before the discovery of insulin.
4. Dr. Frederick Banting, assisted by Charles Best, conducted his research on diabetes at the University of Toronto under highly adverse conditions including time, facilities and money limitations.

SUGGESTED CLASS PREPARATION

a) Introduction:

This film should be of considerable interest to all Canadian students and teachers. It can serve as a very useful supplement to both Science and Biology courses. It is recommended that a clear and concise background to the discovery of insulin should be given, including medical opinion on the subject prior to 1920. The significant role served by the pancreas in the body should be clearly understood as well as man's whole physiological system. Photos of prominent Canadian scientists could be posted around the classroom, further focussing attention on Canada's contributions in this field.

b) Words Which May Cause Difficulty:

chloroform

hormone

pancreatic duct

colorimeter

islet cell

respiratory quotient

diabetes mellitus

ligation

Ringer's solution

G.N. ratio

toxic

c) Directive Questions Answered in the Film:

1. What is the cause of diabetes? Is it fatal?
2. How did Dr. Banting attempt to obtain the extract containing the anti-diabetic principle?
3. Why did Banting's first experiment fail?
4. Why had so many before Banting failed?

SUGGESTED FOLLOW-UP ACTIVITIES

1. Prepare an oral or written composition on the development of our knowledge in the field of diabetes since Banting's discovery of insulin.
2. Prepare an oral or written composition on Canada's contributions to the world of science.
3. Prepare a diagram of the human physiological system, placing particular emphasis on the pancreas.
4. Prepare an oral or written composition on the significance of the pancreas in blood sugar control.

RELATED VISUAL AIDS

Films:

CANCER CLINIC (NFB — 15 minutes)

STRESS (NFB — 11 minutes)

THE FIGHT: SCIENCE AGAINST CANCER (NFB — 21 minutes)