CONTENTS

ENDOCRINOLOGY AND REPRODUCTION

A combined panel for Endocrinology & Metabolism and Reproduction was composed of the following members: Jack L. Kostyo, Ph.D., Chairman, Department of Physiology, Emory University, Atlanta, Ga. (Panel Chairman); Alfred E. Wilhelmi, D. Phil., Chairman, Dept. of Biochemistry, Emory University School of Medicine, Atlanta, Ga.; William F. Ganong, M.D., Chairman, Dept. of Physiology, University of California, San Francisco, Calif.; Jack Gorski, Ph.D., University of Illinois at Urbana, Urbana, Illinois; Neena B. Schwartz, Ph.D., Dept. of Neuroendocrinology, Univ. of Illinois College of Medicine, Chicago, Illinois; and Carol Proudfit, Ph.D., Dept. of Neuroendocrinology, Univ. of Illinois College of Medicine, Chicago, Illinois. Attendees from the APS Education Office Staff were Orr E. Reynolds, Ph.D. and William D. De Hart, Ph.D.; Nursing Education Representatives present were Claire Parsons, Ph.D., School of Nursing, Univ. of Virginia School of Medicine, Charlottesville, Va., and Ellen Fuller, Ph.D., Dept. of Physiology, Emory University, Atlanta, Ga.

Aldosterone: Story of a Hormone

Documents the history of aldosterone through interviews with physicians who pioneered the development of this hormone. Reviews the action of aldosterone in edema and hypertension, and shows how knowledge in this subject area is applicable to daily care of patients.

34 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 9
Useful as: Enrichment Material
Available from: G. D. Searle & Co.
P. O. Box 5110
Chicago, Ill. 60680
Recommended: Medical Students, allied health, nurses.

Sperm Maturation in the Male Reporduction System

Sperm Maturation in the Male Reproduction System

Shows changes in motility of rabbit spermatozoa as they move through each part of the epididymis.

13 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 9
Useful as: Enrichment Material
Available from: University of Washington
Audio-Visual Services
114 Lewis Hall
Seattle, Wash. 98105
Recommended: Graduate and medical students, allied health, nurses.

High Speed Cinematography of Human Spermatozoa

Presents ultra-slow motion pictures of human sperm locomotion as it appears under the microscope, showing and analyzing the movement patterns of freely swimming spermatozoa including speculations on the mechanism of movement of these organisms concluding with electron microscope photographs of the detailed anatomy of the spermatozoa.

17 min. Sound. Black & white. 16MM Motion Picture
Content: 9; Production quality: 7
Useful as: Enrichment Material
Available from: New York University Film Library
26 Washington Place
New York, N.Y. 10003
Recommended: Graduate & medical students, allied health, nurses.

The Egg and Sperm

Explores details of organization in animal sperm cells, the egg, and the gonadal structures. Uses a 3-dimensional model of human sperm constructed from electron microscope photographs to study functions and parts, and traces development through animation.

15 min. Sound. Black & white. 16MM Motion Picture
Content: 5; Production quality: 10
Useful as: Enrichment Material
Available from: McGraw-Hill, Inc.
Text Film Division
330 W. 42nd St.
New York, N.Y. 10036
Recommended: High school & introductory college.

When Life Begins

Shows the developing fetus from the earliest moments of fertilization of the egg to the time of birth, all through the miracle of live motion picture photography within the womb. The various stages of development of the main external organs of the fetus are outlined, and the film ends with a live birth sequence.

12 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 10
Useful as: Enrichment Material
Available from: McGraw-Hill, Inc.
Text Film Division
330 W. 42nd St.
New York, N.Y. 10036
Recommended: High school & introductory college.

Ovulation and Egg Transport in the Rat

Shows scenes of ovulation as observed in the living animal. Each series of ovulations is preceded by animated drawings of the various types of ovulation. The film illustrates also the method of egg transport from the fimbriated end of the oviduct into the dilated ampulla. Examples of ciliary activity as observed with the phase microscope are included.

15 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 10
Useful as: Enrichment Material
Available from: University of Washington
Audio-Visual Services
114 Lewis Hall
Seattle, Wash. 98105
Recommended: Graduate & medical students, allied health, nurses.

Transport of the Ova

Presents experimental data on egg descent in the reproductive tracts of ewes via photographic time lapse studies of artificially sustained ewe isthmus segments. Demonstrates peristalsis and antiperistalsis as the driving forces behind egg movement. Considers isthmus egg permeability as a function of time after ovulation, and more specifically, as a function of normal oestrus hormone balance.

Photographic Time Lapse Studies
20 min. Sound. Black & white. 16MM Motion Picture
Content: 8; Production quality: 4
Useful as: Enrichment Material
Available from: French American Cultural Services & Educational Aid
972 Fifth Avenue
New York, N.Y. 10021
Recommended: Graduate & medical students, allied health, nurses.

Sexual Reproduction

Uses a variety of plants and animals to show that although sexual reproduction may differ in certain details from organism to organism, its basic features remain the same. The production and union of gametes, models of cells and chromosomes are used to illustrate that through random assortment and chance union, sexual reproduction makes possible great variation which has benefitted man and insured the survival of many living things in a varied environment.

15 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Enrichment Material
Available from: University of Nevada
Audio-Visual Communication Center
Reno, Nev. 89502
Recommended: High school & introductory college.

The Physiology of Reproduction in the Rat

Contrasts the behavior of the female rat during the period of estrus with her behavior between periods. External behavior of both male and female during mating is shown. Time lapse photography shows the penetration of the ovum by the spermatozoa.

20 min. Sound. Color. 16MM Motion Picture

Content: 9; Production quality: 9
Useful as: Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn St.
Chicago, Ill. 60610
Recommended: Medical students, allied health, nurses.

Reproduction in Animals

This film introduces fundamental principles of the process of reproduction among animals, with the emphasis on reproduction in mammals. The function of each parent, the three main types of sexual reproduction, the development of the embryo, and birth processes are illustrated.

11 min. Sound. Black & white/color. 16MM Motion Picture
Content: 7; Production quality: 9
Useful as: Enrichment Material
Available from: Brigham Young University
Chairman, Audio-Visual Center
Provo, Utah 84601
Recommended: High school & introductory college.

The Fertilization Process

Depicts successive steps of release approach, penetration, nuclear fusion, and activation. Explains scientific investigation of separate phases, and significance of experiments in chemotaxis by Rothschild and Lillie.

15 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 7
Useful as: Enrichment Material
Available from: McGraw-Hill, Inc.
Text Film Division
330 W. 42nd St.
New York, N.Y. 10036
Recommended: High school.

Vertebrate – Part I (Fertilization and Early Development)

Opening scenes reveal transparent, unfertilized eggs, about the size of a pinhead, of the tiny freshwater fish, *Oryzins latipe.* Sperm cells, resembling miniature tadpoles, move actively on the surface of the eggs. Fertilization occurs as soon as the first sperm penetrates the micropyle of the egg. This sets off rapid changes: a surging motion of the protoplasm takes place, and the orderly process of cell division starts and continues until a ball of cells, the blastula, is formed.

15 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 5
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Ave.
Wilmette, Ill. 60091
Recommended: High school & introductory college.

Overture: Development of a Chick Embryo

To the score of Beethoven's Egmont Overture, time-lapse photography with a microscopic camera unfolds the development of a chick embryo. Creative editing and the music make this a work of art as well as a scientific exploration.

9 min. Sound. Color. 16MM Motion Picture
Content: 10; Production quality: 10
Useful as: Enrichment Material
Available from: McGraw-Hill, Inc.
Text Film Division
330 W. 42nd St.
New York, N.Y. 10036
Recommended: High school & introductory college.

Hormone Controls in Human Reproduction

Examines relationship of the endocrine system to the ovarian and uterine cycles and feedback effect in the human female. Studies the action of estrogens and progesterone on the pituitary gland. Shows how development of the embryo depends on synchronization of these activities.

20 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Enrichment Material
Available from: McGraw-Hill, Inc.
Text Film Division
330 W. 42nd St.
New York, N.Y. 10036
Recommended: High school & introductory college.

Hormone Control in Regeneration

Diagrams the role of the nerves and the pituitary gland (specifically the ACTH hormone) in limb regeneration of appendages in mammals, showing antler growth in deer as the only true example.

15 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Enrichment Material
Available from : McGraw-Hill, Inc.
Text Film Division
330 W. 42nd St.
New York, N.Y. 10036
Recommended: Introductory college.

The Hormones: Small but Mighty

Describes the ways in which hormones are produced in the glands and circulate in the bloodstream and explains what happens if they do not perform their functions adequately. Explains how hormones stimulate and control the functions of growth, metabolism, and reproduction.

29 min. Sound. Black & White. 16MM Motion Picture

Content: 9; Production quality: 5
Useful as: Enrichment Material
Available from: Indiana University
Audio-Visual Center
Bloomington, Ind. 47401
Recommended: Introductory college.

Hormones

Defines "hormones" and "target organs" and discusses experiments of Bayliss and Starling that led to discovery of hormones. Covers chemical constitution of hormones and demonstrates hormonal changes in rooster and caterpillar. Dr. Farner details one complete hormone cycle, using the effect of length-of-day on the reproductive system of the Hale White Crown Sparrow.
30 min. Sound. Black & white/color. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Enrichment Material
Availal from: University of Minnesota
Audio-Visual Service
2037 University Ave. S.E.
Minneapolis, Minn. 55455
Recommended: High school & introductory college.

The Discovery of Insulin

Dramatizes the inspiring story of Drs. Frederick Banting and Charles Best, young Ontario doctors who discovered insulin in 1921. Their work with dogs at the University of Toronto answered questions about one of man's most baffling diseases and created a new lease on life for thousands of diabetics.
19 min. Sound. Black & white. 16MM Motion Picture
Content: 7; Production quality: 7
Available from: International Film Bureau, Inc.
332 S. Michigan Ave.
Chicago, Ill. 60604
Recommended: High school & introductory college.

Measuring Oxygen Consumption

Shows the construction and use of a simple apparatus to measure oxygen consumed by small mammals in demonstrating an important aspect of metabolic studies. Materials used are readily available in most classroom laboratories.
6 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Enrichment Material
Available from: University of Colorado
Extension Division
Bureau of Audio-Visual Instructions
Stadium 348
Boulder, Colo. 80302
Recommended: Introductory college.

Obesity

Illustrates the physiology of fat formation in the human body and analyzes physiological and psychological causes of overweight. It reveals ways in which body weight can be controlled and explains the danger of uncontrolled fat accumulation.

12 min. Sound. Black & white/color. 16MM Motion Picture
Content: 7; Production quality: 9
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Ave.
Wilmette, Ill. 60091
Recommended: High school & introductory college.

Clinical Entities, Hypertension of Adrenal Origin — Aldosteronism and Pheochromocytoma

The approach is geared to the working tools available to the practitioner of medicine, particularly the history and physical examination. The electrolyte changes that occur in each entity are described, and the hormonal defects are presented through animation techniques.

12 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 North Dearborn St.
Chicago, Illinois 60610
Recommended: Medical students, allied health, nurses.

Clinical Entities, Cushing's Disease

Patients having Cushing's disease are compared with patients who are simply obese. After demonstrating the characteristic differences in fat distribution, the film clearly describes the causes and pathophysiology of Cushing's disease with the aid of animation and patients with the disease. The rational treatment for each aspect of the disease is described.

32 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 North Dearborn St.
Chicago, Illinois 60610
Recommended: Medical students, allied health, nurses.

Diagnosis in Clinical Disorders of Calcium and Bone Metabolism (Parts I & II)

Discusses primary hyperparathyroidism, parathyroid dysfunction in renal failure, and postsurgical and idiopathic hypoparathyriodism. Features Robert Heaney, M.D., Professor and Chairman, Department of Medicine, University of Nebraska School of Medicine.

19 min. Sound. Black & White. 16MM Motion Picture
Content: 6; Production quality: 5
Useful as: Enrichment Material
Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Ga. 30324
Recommended: Medical students, allied health, nurses.

The Physiology of Normal Menstruation

Explains the relationship of five principal hormones concerned with the normal menstrual process.

22 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 9
Useful as: Enrichment Material
Available from: Loma Linda University
Motion Picture Library
Audio-Visual Service
Loma Linda, Calif.
Recommended: Medical students, allied health, nurses.

Boy to Man

Explains some of the common physiological manifestations of maturation. It is designed primarily for showing to boys just entering adolescence. It presents the changes of adolescence, moving from the superficial changes of growth, skin, voice, and body hairs to the more complicated phenomena of glandular changes and sexual maturation.

17 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 9
Useful as: Enrichment Material
Available from: American Medical Association
Motion Picture LIbrary
535 N. Dearborn St.
Chicago, Ill. 60610
Recommended: Middle school students.

NEUROPHYSIOLOGY–CENTRAL AND PERIPHERAL NERVOUS SYSTEM

These panels were composed of the following members: John Brookhart, Ph.D., Chairman, Department of Physiology, University of Oregon Medical School, Portland, Oregon (Central panel Chairman); W.I. Welker, Ph.D., University of Wisconsin, Madison, Wis.; Wayne C. Crill, M.D., Department of Physiology, Biophysics and Medicine, University of Washington, Seattle, Wash.; Loring F. Chapman, Ph.D., Chairman, Department of Behavioral Biology, University of California School of Medicine, Davis, Calif.; Adelbert Ames III, M.D., Department of Surgery, Harvard Medical School, Boston, Mass.; Myron L. Wolbarsht, Ph.D., Department of Opthalmology, Duke University Medical Center, Durham, N.C.; Beverly Bishop, Ph.D., Department of Physiology, State University of New York, Buffalo Medical School, Buffalo, N.Y.; Edward Perl, M.D., Department of Physiology, University of North Carolina School of Medicine, Chapel Hill, N.C.

CENTRAL NERVOUS SYSTEM

Cultivation of Mammalian Cerebellum

Cultivating central nervous tissue: It shows steps for growing cells in vitro from kitten and puppy cerebellum, and recording by time-lapse photography: Rapid emigration from cerebellar explants is followed by zones of various cell types: Granule cells, purkinje cells, and phagocytic cells. Myelin formed de novo is shown in living state.

16 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 4
Useful as: Enrichment Material
Available from: Abbott Laboratories
Film Service Dept.
North Chicago, Ill. 60064
Recommended: Medical, dental, veterinary, graduate, nursing and allied health students; introductory undergraduate.

Activities of Microglia

Shows the form and activity of microglia in culture by means of phase contrast. Time-lapse cinematography, shows phagocytic activity in human retinal tissue. Compares microglia with lymphocytes in a brain melanoma.

11 min. Sound. Black & white. 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Primary Educational Instrument and Enrichment Matrial
Available from: Abbot Laboratories
Film Service Dept.
North Chicago, Ill. 60064
Recommended: Medical, dental, veterinary, graduate, nursing and allied health students; introductory undergraduate.

Activities of Oligodendroglia

Shows, by means of time-lapse phase contrast cinematography, the form and activities of oligodendroglia, uses tissue cultures from the corpus callosum of the rat, human brain tissue, and cells from an oligodendroglioma.

12 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Enrichment Material
Available from: Abbott Laboratories
Film Service Dept.
North Chicago, Ill. 60064
Recommended: Medical, dental, veterinary, nursing and allied health and graduate students.

Gait

Illustrates and differentiates the effects on gait of various lesions in the neuro-muscular mechanism. Walking is seen to be a highly skilled act dependent on the integrity of the muscular and nervous systems. Disturbances at various points produce characteristic gait peculiarities. Diagrams show the location of lesions for each of the following gaits: 1) Those following weakness of muscle groups, 2) Those due to interruption of peripheral nervous pathways, 3) Those due to upper motor neuron lesions with pyramidal tract dysfunction, 4) Sensory atactic, 5) Those in cerebellar conditions, 6) Those resulting from three levels of involvement in the central grey mass.

33 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: ICI America, Inc.
Public Relations Dept.
Wilmington, Del. 19899
Recommended: Medical, nursing, and allied health students: basic and clinical sciences, specialty and continuing education. Graduate and veterinary students: basic sciences.

Acute Head Injury

A grouping of head injury patients into five categories dependent upon site of injury. Appropriate therapy for each group is outlined.

30 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Enrichment Material
Available from: Davis & Geck
1 Casper Street
Danbury, Conn. 06810
Recommended: Medical, nursing and allied health students.

Split Brain Operation

Illustrates split brain in monkeys, brief view of sensory testing. Human subject with split callosum (for epilepsy) shown trying to assemble three dimensional objects.

20 min. Sound. Black & white. 16MM Motion Picture
Content: 7; Production quality: 6
Useful as: Enrichment Material
Available from: Indiana University
Audio-Visual Center
Bloomington, Ind. 47401
Recommended: Medical nursing, and allied health students: basic and clinical sciences, specialty and continuing education.
Basic sciences: dental, veterinary, graduate and undergraduate students.

The Cerebral Cortex of the Monkey

Presents a physiological demonstration of the fundamental functions of the motor cortex of the monkey: It demonstrates the responses produced by stimulating certain areas of the brain.

23 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Primary Educational Instrument
Available from: ICI American, Inc.
Public Relations Dept.
Wilmington, Del. 19899
Recommended: Basic Sciences: Medical, dental, veterinary, nursing, allied health, graduate and undergraduate students.

The Visual Cortex of the Cat

Single cells in the visual cortex of an anesthetized cat are examined by recording with an extracellular microelectrode while bars of light at various angles are projected upon a TV screen in the cat's visual field. Simple, complex, and hypercomplex cells are identified and characterized. The columnar structure of the visual cortex is presented in animation.

15 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 9
Useful as: Primary Educational Instrument
Available from: Ferranti Electric, Inc.
East Bethpage Road
Plainview, N.Y. 11803
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students.

Bobath: The Bobath Approach to Cerebral Palsy Habilitation

This film is divided into three parts, section one shows the normal sequence of human reflexive maturation starting from the brain stem reflexes and ending with the equilibrium reactions, asymmetrical and symmetrical tonic neck reflexes. Tonic labyrinthine righting reflexes, in addition to equilibrium reactions in sitting, kneeling, standing and walking are exhibited. Examples of general treatment based on the suppresssion of tonic reflexes are: the facilitation of righting and equilibrium reactions. Included in the therapy demonstration is the facilitation of side-lying, crawling, and standing activities. The concluding section is devoted to speech habilitation and reveals the application of speech reflex inhibiting postures, techniques for head and neck dissociation and desensitization of infantile oral reflexes as well as techniques for the facilitation of vocalization and articulation.

29 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 6
Useful as: Primary Education Instrument and Enrichment Material
Available from: Inter Church Audio-Visuals, Inc.
832 Silas Deane Highway
Wethersfield, Conn. 06109
Recommended: Medical, nursing, and allied health students: basic and clinical sciences, specialty and continuing education. Graduate students.

Normal and Abnormal Neurologic Function in Infancy

Gesell system of examination for normal and abnormal behavioral development in infancy. Normal patterns are compared with a number of varieties of abnormal situations of interest to pediatric neurologists.

20 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Ohio State University
Film Distribution Supervisor
Div. of Motion Pictures
1885 Neil Avenue
Columbus, Ohio 43210
Recommended: Medical students: basic and clinical sciences; medical specialty and continuing education.

Neurological Signs—Part II The Motor System and Reflexes

Functional anatomy of motor system with associated pathology. Illustrates classic neurological sings in diagnosis of motor system and reflex disorders.

30 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 4
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Wayne State University
Audio-Visual Center
5448 Cass Avenue
Detroit, Mich. 48202
Recommended: Clinical Sciences: dental, medical, veterinary, nursing, allied health students.

Dynamic Aspects of the Neuron in Tissue Culture

Satellite cells in mitosis, macrophages, Nissl substance shown; phase dark substance shown circulating in the canaliculi of the nerve cell body. Axoplasmic flow, wrapping of Schwann cell around axon shown. Dorsal root ganglion cell at 4 frames/min and growth cones in regenerating fibers shown. Action of filopodia and contact with terminal cell shown. Concludes with a list of references the results of which have been illustrated in this film.

25 min. Sound. Black & white. 16MM Motion Picture
Content: 9; Production quality: 8
Useful as: Enrichment Material
Available from: Tissue Culture Association, Inc.
99 N. El Molino Ave.
Pasadena, California 91101
Recommended: Basic Sciences: Graduate students
Clinical Sciences: Specialty and continuing education.

*Recording from Single Neurons

Gross cat brain, section of visual cortex and enlarged Golgi-Cox micrograph shown to orient the viewer to microelectrode technique. The stereotaxic instrument and its use are briefly explained. A cat (anesthetized) is shown in the instrument and an operation exposing visual cortex is performed. Brief look at some extracellular action potential finishes the movie.

8 min. Sound. Color. 16MM Motion Picture
Content: 10; Production quality: 10
Useful as: Enrichment Material
Available from: Ferranti Electric Inc.
East Bethpage Road
Plainview, N.Y. 11803
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health students.
Clinical Sciences: Specialty and continuing education.

*Useful in conjunction with: The Visual Cortex of the Cat

Epileptic Seizure Patterns

EEG and behavioral variants of seizures. Simultaneous moving picture of patient and recording during petit mal and grand mal seizures.

20 min. Sound. Color. 16MM Motion picture
Content: 7; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Indiana University
Audio-Visual Center
Bloomington, Ind. 47401
Recommended: Medical students: basic and clinical sciences, specialties. Veterinary, nursing and allied health: basic and clinical sciences; specialty.

PERIPHERAL NERVOUS SYSTEM

Muscle Spindle

A simple description of the structure and innervation of cat muscle spindles is given. The spirals of the primary sensory nerve ending are shown to open when the living spindle is passively stretched and the nature of the afferent discharge is demonstrated. The stretch reflex is illustrated by animation.

Unloading of a muscle spindle during contraction of extrafusal muscle fibres is demonstrated visually as is separate activation of the intrafusal bundle when motor nerve fibres are recruited. Local contraction of intrafusal fibres, the degree of which depends on the frequency of repetitive stimulation of fibres, is shown to preset the degree of separation of the spirals of the primary sensory ending, and hence the sensitivity of the ending. Finally, activation of skeletal muscle by the "direct" and "indirect" routes from the spinal cord is illustrated by animation. No attempt is made in this film to differentiate the structure and function of nuclear bag intrafusal muscle fibres from that of nuclear chain intrafusal muscle fibres. (This is the subject of a separate film entitled "The Mammalian Muscle Spindle—An Advanced Study" copies of which are available direct from the Institute of Physiology, the University of Glasgow.)

19 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: John Wiley & Sons, Inc.
Educational Services
605 Third Ave.
New York, N.Y. 10016
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students.

Microelectrodes in Muscle

Preparation of microelectrodes from hard glass tubing of about two millimeters external diameter is illustrated. A frog dissected and the sartorius muscle in the thigh is isolated. Ringer solution keeps the preparation wet at about the same ionic composition as the extra-cellular fluid. The muscle, connecting nerve, and piece of the pelvic bone are transferred to the recording amplifier and placed in contact with the solution surrounding the muscle fiber. A separate calibrated voltage source for the circuit is established. Measurements of the electrical potential across the membrane of muscle fiber begin as the microeletrode tip enters the cell. Several measurements are carried out.

19 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 9
Available from: John Wiley & Sons, Inc.
Educational Services
605 Third Ave.
New York, N.Y. 10016
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students.

Use of the Oscilloscope in Physiology

Shows use of Dumont oscilloscope in recording action potentials from nerve. Action potentials are animated on paper mockups, not original tracings.

30 min. Sound. Black & white. 16MM Motion Picture

Content: 5; Production quality: 5

Useful as: Primary Educational Instrument and Enrichment Material

Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Ga. 30324

Recommended: Basic Sciences: Medical, dental, nursing and allied health and undergraduate students.

Package on Hodgkin-Huxley Evidence and Theory for Mechanism of the Action Potential by Beverly Bishop, Ph.D.

35MM slides and audio tape in cassettes covering subject of excitable membranes.

Content: 8; Production quality: 7

Useful as: Primary Educational Instrument

Available from: Availability not certain. Interested persons may write Dr. Beverly Bishop, The Medical School, State University at Buffalo, Buffalo, N.Y. 14214.

Recommended: Basic Sciences: Medical, dental, veterinary, graduate and undergraduate students.

Impulse Propagation in a Nerve Fiber

Shows, through animation, the physiological properties of a nerve fiber responding to impulses of varying intensities.

20 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 7

Useful as: Primary Educational Instrument

Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Ga. 30324

Available from: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students.

Introduction to Bioelectricity

Approaches the generation of bioelectric phenomena principally in the nerve membrane. Ionic movements, Donnan equilibrium used to develop the Goldman equation. Nernst equation then derived in a clear manner from the Goldman equation. Further slide-tape sets develop the action potential mechanism.

45 min. Sound. Color. 35MM, 2x2 Slides with Carrousel Triggering Cassette Tape.

Content: 8; Production quality: 9

Useful as: Primary Educational Instrument

Available from: Dr. Robert Siminoff
Department of Physiology
Meharry Medical College
Nashville, Tenn. 37208

Recommended: Basic Sciences: Medical and dental students.

The Nerve Impulse

Extensive laboratory demonstrations, arranged in chronological order, form the basis upon which physiological concepts are developed in this film. They range from fairly simple frog nerve-muscle preparations to a re-creation of the single squid axon preparation made famous by Nobel prize winners Hodgkin and Huxley. Makes students aware that all successful experiments are the result of many scientists, each building on the work of others.

22 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Ave.
Wilmette, Ill. 60091
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, undergraduate and high school students.

Peripheral Nerve Repair with Silastic Cuffing

Illustrates neuromas of peripheral nerve and shows pathology sections. Detailed surgical techniques for nerve repair is then shown in step-by-step fashion. Little physiology content.

25 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: National Medical Audiovisual Center
Station K
Atlanta, Ga. 30324
Recommended: Medical students: basic and clinical sciences, specialty and continuing education. Dental and veterinary students: specialty and continuing education. Nursing and allied health students.

*Pharmacology of the Autonomic System

Audio tapes and printed material covering pharmacology of autonomic nervous system. Adrenergic and cholinergic systems.

Arranged in 5 sessions, each approximately 15 min. long. 1¾ i.p.s.
Content: 5; Production quality: 5
Useful as: Primary Educational Instrument
Available from: Chas. Engle
Dept. of Audio Visual Communication
B.M.A. House
Tavistock Square
London WC1H,9JP, England
Recommended: Basic Sciences: Medical, dental, nursing and allied health and graduate students.

*Student evaluations of this material are also available from Mr. Engle.

Neurological Signs—Part III Proprioceptive and Sensory Systems

Functional anatomy with associated pathology. Classical neurological signs are demonstrated and diagnosis of sensory lesions made.

30 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Wayne State University
Audio-Visual Center
5448 Cass Ave.
Detroit, Mich. 48202
Recommended: Medical students: basic and clinical sciences, specialty and continuing education. Nursing and allied health students.

The Sensory World

Featuring unusual animation, this film uniquely demonstrates how the eyes, ears, skin and proprioceptive systems work. The viewer is taken on an unusual tour from the initial sensation through the senses to the brain and back to the point of stimulus. The overall presentation is impressionistic and inspirational.

34 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 10
Useful as: Enrichment Material
Available from: Association Sterling Films
2221 South Olive St.
Los Angeles, Calif. 90007
Recommended: Basic Sciences: Medical, dental, nursing and allied health, undergraduate and lay.

The Senses of Man

Reveals how external stimuli in the form of light, sound, odor, touch, and taste are converted into nerve impulses by one or more sense receptors in the body: in addition to external sense receptors, internal sense receptors which provide information about the state of inner organs are discussed. Each special sense receptor is presented in a detailed fashion. The section on vision describes the functions of the cornea, the lens and the retina and explains aspects of sight such as focusing, discriminating between various shades of gray. The segment on hearing presents the three parts of the ear and shows how pressure changes in waves activates the hearing mechanism. The sequence which explains the sense of balance includes discussion of semicircular canals, the ampulla, the saccule, and the utricle.

18 min. Sound. Black & white. 16MM Motion Picture
Content: 6; Production quality: 10
Useful as: Enrichment Material
Available from: Indiana University
Audio-Visual Center
Bloomington, Ind. 47401
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school and lay.

The Human Body: Sense Organs

The film combines animation, photomicrography, live action, and excellent anatomical drawings to indicate the vast range of types of stimuli which the human body is able to perceive. The complete process of sense perception is shown, from the physical or chemical stimulus to its conversion into a nerve impulse by the receptor and the perception of the impulse by the brain. Microscopic views which show the sense receptors of the human body in detail were photographed by arrangement with the University of Illinois College of Medicine.

18½ min. Sound. Black & white. 16MM Motion Picture
Content: 9; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Coronet Instructional Films
65 East South Water St.
Chicago, Ill. 60601
Recommended: Basic Sciences: High school students

The Ears and Hearing

Describes the physiology of the ear using graphic animated drawings and close-up photography of the ear as it is functioning. Portrays how the parts of the ear operate, and records important kinds of sounds in our environment. Explains causes of impaired hearing and demonstrates hearing aid use.

11 min. Sound. Black & white. 16MM Motion Picture
Content: 7; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Ave.
Wilmette, Ill. 60091
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students. Medical students: clinical sciences, specialty and continuing education.

Hearing and Noise

Hearing and Noise is a dramatic film which makes the student aware of the dangers inherent in prolonged exposure to high noise levels. The young man in the story has interests which subject him to several of the high-level noise sources which are common in today's highly mechanized and electronic society; he plays in a rock band, he is fond of listening to music on a stereo head-set, and he has a hobby of flying gas engined model airplanes. Reluctant to acknowledge his hearing difficulty, he must at last accept it. Woven into the story is a physiological description and illustration of the ear and the working of the hearing mechanism.

16 min. Sound. Color. 16MM Motion Picture
Content: 10; Production quality: 10
Useful as: Primary Educational Instrument
Available from: Oxford Films, Inc.
c/o Federal Marketing Service
P.O. Box 7316
Alexandria, Va. 22301
Recommended: Basic Sciences: High school students.

The Eyes and Seeing

Elementary presentation of visual physiology, retinal potentials in humans shown, and some single unit recording in animals is shown.

20 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Ave.
Wilmette, Ill. 60091
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, undergraduate and high school students.

The Eye — Visual Accommodation

Content includes adjustment of the eye lens to obtain clear focus upon objects at varying distances. A diagrammatic longitudinal section of a normal human eye shows the principal structures involved in the process of accommodation.

5 min. Silent. Color. 8MM Cassette.
Content: 7; Production quality: 7
Useful as: Primary Educational Instrument
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Ave.
Wilmette, Ill. 60091
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students.

*Lateral Inhibition in the Retina

Structure, in animation, of the vertebrate retina shown. Anesthetized cat in stereotaxic instrument with microelectrode in optic nerve fiber experimented upon. Receptive field defined by visual stimulus on TV screen. On — off responses similarly defined. Periphery of on response shown to be "off" in character. Light in the surround shown to inhibit central "on" response. Anatomy responsible for this inhibition in "on" surround also analyzed.

15 min. Sound. Color. 16MM Motion Picture
Content: 10; Production quality: 9
Useful as: Primary Educational Instrument
Available from: Ferranti Electric, Inc.
East Bethpage Road
Plainview, N.Y. 11803
Recommended: Basic Sciences: Medical, dental and veterinary students.

*Useful in conjunction with: The Visual Cortex of the Cat

Demonstrations in Perception

Many experiments and demonstrations of visual perception. E.g. distorted room, revolving trapezoid, inflating spheres, illustrate many aspects of visual perception.

30 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: U.S. Navy Medical Film Library
National Naval Medical Center
Bethesda, Md. 20014
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students. Medical students: clinical sciences, specialty and continuing education.

Pain Where Does It Hurt Most?

A survey of current research into the alleviation of pain, a key concern of modern medicine. Research and experimentation covered include psychological, behavioral, and physiological techniques from acupuncture to hypnosis to white noise for control or alleviation of pain. (Produced by N.B.C. News Educational Enterprises)

51 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Federal Marketing Services
P.O. Box 7316
Alexandria, Va. 22301
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, high school; lay.
Clinical Sciences: Medical students.

Information Processing

This film examines how we receive, process, store, and retrieve information. It was filmed at an actual Hollywood cocktail party staged for the film. Produced and hosted by actor-comedian David Steinberg. Vignette of memory and sensory input problems.

25 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 9
Useful as: Enrichment Material
Available from: Association Sterling Films
2221 South Olive St.
Los Angeles, Calif. 90007
Recommended: Basic Sciences: Medical, dental, veterinary, undergraduate, high school and lay.

MUSCLE-SKELETAL

The Muscle-Skeletal panel was composed of: Brain Curtis, Ph.D., Department of Physiology, Tufts Univesrity School of Medicine, Boston, Mass.; John White, Ph.D., Department of Physiology, University of Maryland Dental School, Baltimore, Md.; Bernard C. Abbott, Ph.D., Department of Biological Sciences, University of Southern California, Los Angeles, Calif.

What Makes Muscle Pull

The contractile elements of striated muscle are described. The units called sarcomeres are examined in the electron microscope. Sarcomere shortening by the sliding of filaments is studied. X-ray diffraction techniques are employed to determine how molecules fit together to form a filament. ATP hydrolyzing sites are located. Filaments are dissolved to yield three proteins. The entire system is explored in terms of myosin interacting with actin. Inasmuch as we still do not know the changes occurring within the actin and myosin molecules as the work is performed, the film concludes with the observation that new methods and new ideas are needed before we can explain what makes muscle pull.

9½ min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument
Available from: John Wiley and Sons, Inc.
Educational Services
605 Third Avenue
New York, N.Y. 10016
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, and undergraduate students. Graduate students.

The Human Skeleton: Structure and Joints

A combination of live action photography, animated diagrams, cineradiology, and an actual skeleton are used. Show the structure of the axial and appendicular portions of the skeleton, the construction of immovable, slightly movable and freely movable joints; articulation and range of movement of the elbow (a hinge joint); the rotation of the radius round the ulna in the forearm; the articulation, construction and range of movement at the hip (a ball and socket joint).

11 min. Sound Black & white. 16MM Motion Picture
Content: 4, Production quality: 4
Useful as: Primary Educational Instrument
Available from: Universal Education and Visual Arts
221 Park Avenue South
New York, N.Y. 10003
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students.
Clinical Sciences: Continuing education. (Nursing)

Muscle and Bones of the Body

This film emphasizes the importance of the muscles and bones to the internal and external functioning of the human body, showing how tendons, joints, muscles, and the bones of the skeleton work smoothly together as one unit. Gives the difference between voluntary and involuntary muscles and the importance of proper exercise and diet to a healthy body.

11 min. Sound. Black & white/color. 16MM Motion Picture
Content: 4; Production quality: 4
Useful as: Enrichment material only
Available from: Coronet Films
65 E. South Water Street
Chicago, Illinois 60601
Recommended: Basic Sciences: High school students.

Muscle: Chemistry of Contraction

Simple presentation of the several proteins comprising muscle. Elementary model of the sliding-filament hypothesis presented.

20 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 9
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Encyclopedia Britannica Educational Corporation, Rental Library
1822 Pickwick Avenue
Glenview, Illinois 60025
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, undergraduate and high school students.

Muscle: Dynamics of Contraction

Overview of muscle dynamics; contraction of whole muscle.

20 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Encyclopedia Britannica Educational Corporation, Rental Library
1822 Pickwick Avenue
Glenview, Illinois 60025
Recommended: Basic Sciences: Nursing and allied health, undergraduate, and high school students.

Muscle Function in the Fingers

Functional anatomy of the human fingers.

15 min. Sound Color. 16MM Motion Picture
Content: 10; Production quality: 9
Useful as: Primary Educational Instrument

Available from: American Academy of Orthopaedic Surgeons
29 East Madison Street
Chicago, Illinois 60602
Recommended: Basic Sciences: Medical, veterinary, nursing and allied health students.
Clinical Sciences: Medical students, specialty and continuing education.

Functional Anatomy of the Hand

Shows normal function of the muscles of the hand and forearm.
10 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Association-Sterling Films
324 Delaware Avenue
Allegheny County
Oakmont, Pennsylvania 15139
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health students.
Clinical Sciences: Medical students.

Fractures About the Wrist and Hand

Discusses the functional anatomy of the wrist and hand, particularly as it relates to fractures. Describes the mechanisms of typical injuries, including fractures of the phalanges, metacarpals, carpal, navicular, lunate, and Colles' fracture. Includes aftercare of wrist and hand fractures.
30 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 9
Useful as: Primary Educational Instrument
Available from: Veterans' Administration
Audiovisual Service Center
Washington, D.C. 20421
Recommended: Basic Sciences: Medical, nursing and allied health students
Clinical Sciences: Medical students, specialty and continuing education.

Fractures About the Elbow

Discusses the functional anatomy of the elbow joint and describes the mechanism of typical elbow injuries, such as fractures of the supracondylar, intercondylar, olecranon, and head of the radius. Demonstrates various types of management.
30 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Veterans' Administration
Washington, D.C. 20421
Recommended: Basic Sciences: Medical, veterinary, nursing and allied health students
Clinical Sciences: Medical, nursing and allied health students, specialty, and continuing education.

The Phasic Activity of the Muscles of the Lower Extremity and the Effect of Tendon Transfer

Shows EMG and relation of muscle groups to stance and swing. Shows retraining after tendon transplant.

30 min. Sound. Black & white. 16MM Motion Picture

Content: 6; Production quality: 6

Useful as: Primary Educational Instrument and Enrichment Material

Available from: American Academy of Orthropaedic Surgeons
29 East South Water Street
Chicago, Illinois 60602

Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health students
Clinical Sciences: Specialty and continuing education.

Gait and Musculoskeletal Disorders

Considers the swing and stance phases of normal gait and the diagnosis of abnormalities of gait due to pain, structural defects, and neuromuscular disorders. Illustrates gait abnormalities due to poliomyelitis, cerebral palsy, muscular dystrophy, dystonia musculorum, congenital dislocation of the hip, degenerative disease of the hip, and slipped femoral epiphysis.

34 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 4

Useful as: Enrichment Material

Available from: Wayne State University
Audio-Visual Center
5448 Cass Avenue
Detroit, Michigan 48202

Recommended: Clinical Sciences: Medical Students, specialty and continuing education.

Physiology of the Larynx Under Daily Stress

Studies the physiology of the human larynx under daily stress. Shows mechanics and action of laryngeal structures during phonation.

23 min. Sound. Color. 16MM Motion Picture

Content: 8; Production quality: 7

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Institute of Laryngology and Voice Disorders
10921 Wilshire Boulevard
Los Angeles, California 90024

Recommended: Basic Sciences: Medical, dental, veterinary, graduate students
Clinical Sciences: Medical students, specialty and continuing education.

RESPIRATION

The members of the Respiration panel included: E. B. Brown, Ph.D., Chairman, Department of Physiology, University of Kansas Medical Center, Kansas City, Kansas; Thomas C. Lloyd, M.D., Department of Physiology, Indiana University Medical Center, Indianapolis, Ind.; Hugh D. Van Liew, Ph.D., Department of Physiology, State University of New York at Buffalo, Buffalo, N.Y.; Norman C. Staub, M.D., Professor of Physiology, University of California School of Medicine, San Francisco, Calif.

Principles of Respiratory Mechanics, Part I.

Illustrates the mechanical behavior of the lungs in normal and pathological states, using animated drawings, normal subjects and patients with respiratory conditions. Discusses elastic and resistive properties of the lungs and pressure-volume relationships.

20 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Primary Educational Instrument
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate students
Clinical Sciences: Medical students, continuing education and specialty.

Principles of Respiratory Mechanics, Part II

Uses normal subjects and patients with asthma, pulmonary fibrosis, emphysema, and respiratory muscle paralysis to illustrate alterations in the mechanics of breathing produced by disease. Illustrates pulmonary subdivision and points out the value of mechanical measurements.

20 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary and graduate students
Clinical Sciences: Medical students, continuing education and specialty.

Chronic Bronchitis and Pulmonary Emphysema, The Application of Physical Medicine and Rehabilitation: Part I

Reviews the physiology and pathology of chronic bronchitis and pulmonary emphysema. Demonstrates the equipment and diagnostic techniques used in the management of the patient.

29 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Georgia 30324
Recommended: Basic Sciences: Medical, nursing, and allied health students
Clinical Sciences: Medical students, continuing education and specialty.

Chronic Bronchitis and Emphysema

Describes the relationship between chronic bronchitis and pulmonary emphysema. Presents graphically and with the use of animation the pathology and physiology associated with these disorders. Discusses in detail the treatment for each.

32 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Daniel Moore
Audio-Visual Center
Wayne State University
Recommended: Detroit, Michigan 48202
Clinical Sciences: Medical, dental, nursing and allied health students, continuing education and specialty.

Physiologic Manifestations of Emphysema

Depicts the physical symptoms for diagnosis of emphysema.

10 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Georgia 30324
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate students; lay
Clinical Sciences: Medical, dental, veterinary, nursing and allied health students, specialty and continuing education.

Effects of Altitude

Demonstrates symptoms of progressive arterial hypoxia and recovery in a guinea pig exposed to decreasing atmospheric pressure.

3 min. Silent. Color. 16MM Motion Picture
Content: 5; Production quality: 8
Useful as: Primary Educational Instrument

Available from: Iowa State University
Media Resources Center
Ames, Iowa 50012
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, undergraduate and high school students.

Carbon Monoxide Poisoning: Hyphohemoglobinemic Hypoxia

Demonstrates the symptoms of hypoxia in a guinea pig exposed to low concentrations of carbon monoxide; shows the recovery from such an exposure.
3 min. Silent. Color. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Iowa State University
Media Resources Center
Ames, Iowa 50012
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students; lay.

Life Support Techniques in Intensive Care, Part I: Respiratory Failure, Diagnosis and Airway Care.

This is the first of a series of introductory teaching films on life support techniques for critically ill and injured patients. The scenes are taken in the 16-bed general intensive care unit at the Presbyterian University Hospital in Pittsburgh which has about 1,000 admissions per year. This unit is the center for our critical care teaching program. The film demonstrates arterial puncture and catheterization, pulmonary function tests at the bedside, blood gas determination and interpretation, tracheal intubation, tracheostomy and various equipment and techniques used for airway care.
28 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Medical Illustrations Department
University of Pittsburgh
Pittsburgh, Pa. 15213
Recommended: Clinical Sciences: Medical and nursing and allied health students.

*Life Support Techniques in Intensive Care, Part II: Respiratory Failure, Prolonged Artificial Ventilation.

This film demonstrates techniques and equipment for prolonged artificial ventilation, both obsolete (iron lung) and modern (IPPV) techniques, controlled versus assisted ventilation, indications for prolonged artificial ventilation, adjustment of ventilators according to blood gas values monitored, causes of patients fighting ventilators, characteristics of an ideal ventilator, control of inspired oxygen and carbon dioxide, indications for CPPV (PEEP) and PNPV, respirator alarms and weaning.
25 min. Sound. Color. 16MM Motion Picture

Content: 6; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Medical Illustrations Department
University of Pittsburgh
Pittsburgh, Pa. 15213
Recommended: Clinical Sciences: Medical and nursing and allied health students.

*See part III of this series under the Circulation review section.

Resuscitation of the Newborn

The essential principles involved in the resuscitation of infants who do not breathe, or whose respiration is impaired at birth, are illustrated. The physiology of pre- and post-natal oxygenation and the factors that may contribute to producing respiratory depression in the newborn are described. Sequences on cardiopulmonary resuscitation deal with those cases in which the newborn heart fails to beat, even after the lungs have been expanded.
25 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 9
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Cyanamid Company
Davis and Geck Division
Film Library
1 Casper Street
Danbury, Connecticut 06810
Recommended: Clinical Sciences: Medical and nursing and allied health students, continuing education and specialty.

ENVIRONMENTAL PHYSIOLOGY AND TEMPERATURE REGULATION

The members of the Environmental, Temperature Regulation and Miscellaneous panel included: the Chairman, X. J. Musacchia, Ph.D., Department of Physiology, University of Missouri School of Medicine, Columbia, Mo.; Dorothy J. Cunningham, Ph.D., Institute of Health Sciences, Hunter College, New York, N.Y.; Adam Anthony, Ph.D., Chairman, Department of Physiology, Pennsylvania State University, University Park, Pa.; Clark Blatteis, Ph.D., Department of Physiology & Biophysics, University of Tennessee Medical Units, Memphis, Tenn.; Leo C. Senay, Ph.D., Department of Physiology, St. Louis University School of Medicine, St. Louis, Mo.; L. F. Wolterink, Ph.D., Department of Physiology, Michigan State University, East Lansing, Mich.; and Charles W. Shilling, M.D., Biological Sciences Communications Project, George Washington University, Washington, D.C.

Medical Aspects of High Intensity Noise: General Effects

Describes the nature and explains some of the hazardous physiological and psychological effects of high intensity noise.
21 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Medical Film Library
U.S. Naval Medical School
National Naval Medical Center
Bethesda, Maryland 20014
Recommended: Basic Sciences: Medical, nursing and allied health, graduate, undergraduate and high school students
Clinical Sciences: Medical, graduate, undergraduate and high school students, specialty and continuing education.

The Thermal Boundary Layer — Man's Natural Barrier to the Environment

Convective flow over the human body photographed by Schlieren photography. Whole body convective patterns are shown.
9 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Available from: MacQueen Film Organization, Ltd.
15 Seal Road, Seven Oaks, England.
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students, specialty and continuing education.

Medical Aspects of Diving, Part 1: The Mechanical Effects of Pressure

Explains how underwater swimmers and divers can prevent diving injuries by avoiding the application of unequal pressures from the air they breathe and the water which surrounds them.

30 min. Sound. Color. 16MM Motion Picture

Content: 8; Production quality: 8

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Medical Film Library
U.S. Naval Medical School
National Naval Medical Center
Bethesda, Maryland 20014

Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school and lay students.
Clinical Sciences: Medical, dental, nursing and allied health, graduate, undergraduate and high school students, specialty and continuing education.

Medical Aspects of Diving, Part 2: Effects of Elevated Partial Pressures of Gases.

Explains the concept of partial pressure and the mechanisms responsible for decompression sickness and anoxia.

28 min. Sound. Color. 16MM Motion Picture

Content: 8; Production quality: 8

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Medical Film Library
U.S. Naval Medical School
National Naval Medical Center
Bethesda, Maryland 20014

Recommended: Basic Sciences: Medical, dental, nursing and allied health, graduate, undergraduate and high school students, specialty and continuing education
Clinical Sciences: Medical, dental, nursing and allied health, graduate, undergraduate and high school students, specialty and continuing education.

Heat Disorders: Heat Exhaustion, Heat Stroke and Cramps

Explains the causes, symptoms, treatment and preventive measures for three common heat disorders; analyzes physiological aspects of the undue heat load.

25 min. Sound. Black & white. 16MM Motion Picture

Content: 6; Production Quality: 5

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Audio-Visual Support Center
Armed Forces Institute of Pathology
Washington, D.C. 20305

Recommended: Basic Sciences: Medical, dental, nursing and allied health, graduate, undergraduate and high school students
Clinical Sciences: Medical, nursing and allied health, graduate, undergraduate and high school students, specialty and continuing education.

Tympanic Thermometers

Body sweating rate did not correlate with skin temperature or rectal temperature; researchers were driven to use tympanic thermometry in the ear canal. A clear relationship is seen between tympanic temperature and body sweating rate. Shivering studied and firing of cold receptors correlated with skin temperature. Origin of sweating in brain center identified in anterior hypothalamus. Method of tympanic thermometers shown. Tympanic temperature and esophagus temperature are shown to be nearly identical over wide range of temperatures.

20 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Association Sterling Films, Inc.
324 Delaware Avenue
Allegheny County
Oakmont, Pennsylvania 15139
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate students.
Clinical Sciences: Medical, veterinary, graduate students, specialty and continuing education.

Human disorientation: Experimental Rotating Environments

Depicts several common environmental experiences to give credence to illusory phenomena and explains how such a phenomena may result in disorientation as a result of the rotary motions of space vehicles and aircraft.

36 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Medical Film Library
U.S. Naval Medical School
National Naval Medical Center
Bethesda, Maryland 20014
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical, dental, nursing and allied health graduate students, specialty and continuing education.

Clinical Manifestations of Drug Addiction

Symptoms of intoxication with cocaine, mescaline, marijuana, ketoremidone, morphine and barbiturates in man.

30 min. Silent. Color. 16MM Motion Picture
Content: 6; Production quality: 4
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Addiction Research Center
National Institute of Mental Health
U.S. Public Health Service Hospital
P.O. Box 2000
Lexington, Kentucky 40501
Recommended: Basic Sciences: Medical, dental, nursing and allied health, graduate students
Clinical Sciences: Medical, nursing and allied health, graduate student, specialty and continuing education.

LSD

Presents information about LSD's discovery, its effective dosage, how it works within the human body, and its physical and mental effects.

37 min. Sound. Color. 16MM Motion Picture

Content: 7; Production quality: 6

Useful as: Primary Educational Instrument and Enrichment Material

Rec — Medical Film Library
U.S. Naval Medical School
National Naval Medical Center
Bethesda, Maryland 20014

Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students, specialty and continuing education.

Research Report: THC. The Chemistry of Marijuana

Follows effect of controlled dosage equivalent to three marijuana cigarets from administration to reaction.

20 min. Sound. Black & white. 16MM Motion Picture

Content: 5; Production quality: 5

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Indiana University
Audio-Visual Center
Bloomington, Indiana 47401

Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate student and undergraduate students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, graduate student, specialty and continuing education.

The Disease Called Alcoholism

Stresses that, while alcoholism is symptomatic of psychopathology, it is also a physiological disease and creates changes in body chemistry, in the cardiovascular system, and the liver, blood lipids, and hematopoietic system.

24 min. Sound. Color. 16MM Motion Picture

Content: 8; Production quality: 8

Available from: Pfizer Medical Library
267 W. 25th St.
New York, N.Y. 10001

Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate student, specialty and continuing education.

Anaphylaxis in Guinea Pigs

Demonstration of the Symptoms of Anaphylactic Shock.
8 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Enrichment Material
Available from: University of California Extension
Media Center
2223 Fulton Street
Berkeley, California 94720
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate and high school students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, graduate student, specialty and continuing education.

Coping with Anticholinesterase Intoxication

This film depicts treatment for anticholinesterase poisoning of both civilian accidental exposures and military casualties, the treatment includes atropine, oximes, and various types of artificial respiration, symptoms in both mild and severe cases are illustrated and the mechanism of action of cholinesterase inhibition is animated. The role of clinical studies in arriving at therapeutic regimens is also explained. The research that goes into the treatment of organic poisoning is stressed considerably.
14 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 8
Useful as: Enrichment Material
Available from: Edgewood Arsenal
Building 5103
Edgewood, Maryland 21009
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical, veterinary, nursing and allied health, graduate students, specialty and continuing education.

CIRCULATION

The members of the Circulation panel were divided into two groups, concentrating on the heart and peripheral circulation respectively. The members of the panel included: the Chairman, Norman F. Briggs, Ph.D. (heart), Chairman, Department of Physiology, Medical College of Virginia, Richmond, Va.; Allan Brady, Ph.D., Department of Physiology, University of California Medical Center, Los Angeles, Calif.; Howard Morgan, Ph.D., Department of Physiology, Pennsylvania State University College of Medicine, Hershey, Pa.; and: the Chairman, David F. Bohr, M.D. (peripheral), Department of Physiology, University of Michigan Medical School, Ann Arbor, Mich.; Francis Abboud, M.D., University of Iowa College of Medicine, Iowa City, Ia.; Robert S. Shepard, Ph.D., Department of Physiology, Wayne State University, Detroit, Mich.

Blood Circulation

Emphasis on blood and its path through the body.
15 min. Color. Sound. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, undergraduate, and high school students.

Circulation of the Blood

Describes by animation, the anatomy of the heart, pulmonary and systemic circulatory systems, and the function of the capillaries.
7 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 8
Useful as: Primary Educational Instrument
Available from: American Heart Association
44 East 23rd Street
New York, N.Y. 10010
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, undergraduate and high school students.

The Human Body: Circulatory System

Describes processes of the circulatory system, and the network of arteries and veins that carry blood throughout the body. Presents cinefluorographic studies of the heart, lungs, and kidneys.
14 min. Sound. Black & white/color. 16MM Motion Picture
Content: 4; Production quality: 7

Useful as: Primary Educational Instrument
Available from: Coronet Films
65 E. South Water Street
Chicago, Illinois 60601
Recommended: Basic Sciences: Undergraduate, high school students; lay.

Basic Dog Surgery

Demonstrates anesthization techniques, tracheal cannulation, carotid artery cannulation for blood pressure readings and catheterization of the femoral vein.
16 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 7
Useful as: Primary Educational Instrument
Available from: Department of Physiology
University of Texas Medical Branch
Galveston, Texas
Recommended: Basic Sciences: Medical, veterinary, nursing and allied health, undergraduate students.

Experiments on the Control of Blood Pressure

Illustrates a basic principle of animal physiology by presenting experiments which demonstrate the role of the vagus nerve as an important factor in the reflex control of blood pressure
3 min. Silent. Color. 16MM Motion Picture.
Content: 4; Production quality: 5
Useful as: Enrichment Material
Available from: Iowa State University of Science and Technology
Ames, Iowa 50012
Recommended: Basic Sciences: Medical, veterinary, nursing and allied health, and undergraduate students.

Circulation and the Human Body

Begins with an explanation of the body cells need for food and oxygen, their need to dispose of waste products and need for rest and exercise. Explains how the cells are serviced by the circulation system. Using animation, shows how blood returns from the cells to the heart through capillaries and venous system, how the chambers of the heart pump the blood first through the pulmonary circulation, then back through the arterial system to the capillaries; gives an understanding of how the health of a person is related to the health of his cells.
10 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 9
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Churchill Films
662 North Robertson Boulevard
Los Angeles, California 90069
Recommended: Basic Sciences: Nursing and allied health, undergraduate, and high school students.

Subcutaneous Blood Flow in the Bat: Active Vasomotion

Demonstrates active vasomotion as it occurs in arterioles, terminal arterioles, and precapillary sphincters and as it affects the capillary bed in a bat's wing.

11 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Indiana University
Audio-Visual Center
Bloomington, Indiana 47401
Recommended: Basic Sciences: Medical, dental, nursing and allied health, graduate, and undergraduate students.

Blood Circulation in the Frog. A. Krogh's Classic Work

Capillaries of tongue, bladder, lung, web (foot), isolated nictitating membrane, photographed in black and white. Mechanical stimulation of tongue, with closing of capillaries, followed by mechanical stimulation and opening of capillaries; tongue capillaries shown reacting to urethane; web capillaries reacting to stopping of blood flow.

10 min. Silent. Black & white. 16MM Motion Picture
Content: 4; Production quality: 4
Useful as: Enrichment Material
Available from: American Physiological Society (1 copy on loan)
9650 Rockville Pike
Bethesda, Md. 20014
Recommended: Basic Sciences: Medical and graduate students.

Blood Flow in Microcirculatory Vessels

The microcirculation in the mesentery of the dog. This film was taken through a specially constructed microscope and optical system. Flow characteristics are demonstrated in vessels from about 50μ diameter to capillaries of about 5μ in diameter. Framing rates are from 24 f/sec. to 3200 f/sec. Objectives with magnifications from 10 to 90 are utilized. It demonstrates plasma skimming, changes in shape of red cells and flexibility of cells.

8 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 6
Useful as: Enrichment Material
Available from: Department of Physiology
University of Texas Medical Branch
Galveston, Texas
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students.

Arterial and Venous Pressures

Illustrates a basic principle of animal physiology by demonstrating methods of making direct measurements of arterial and venous pressures. Considers factors that affect pressures at various places in the circulatory system.

3 min. Silent. Color. 16MM Motion picture
Content: 4; Production quality: 5
Useful as: Enrichment Material
Available from: Iowa State University of Science and Technology
Iowa State University
Media Resources Center
Ames, Iowa 50012
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students.

Arterial Elasticity and Blood Flow

Illustrates a basic prinicple of animal physiology by using mechanical analogies to demonstrate how the elasticity of blood vessels helps maintain blood pressure and flow.
3 min. Silent. Color. 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Enrichment Material
Available from: Iowa State University of Science and Technology
Ames, Iowa 50012
Recommended: Basic Sciences: Medical and nursing and allied health students, undergraduate students.

Varicose Veins

Shows by animated diagram the structure and function of the veins, how the valves work, and how the valves may break down causing varicose veins. Highlights symptoms, treatment, and general recommendations for patients.
7 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Heart Association
44 East 23rd Street
New York, N.Y. 10010
Recommended: Basic Sciences: Nursing and allied health, high school students; lay
Clinical Sciences: Nursing and allied health, undergraduate, high school students; lay

Learning Programs in Physiology: Blood Pressure

To present basic terminology and accepted concepts as basis for subsequent lecture and conference discussion of more sophisticated (and less dogmatic) material.
Learning program — each section designed to replace 1 hour of formal lecture.
Mimeograph form; specimen copies only available
Content: 7; Production quality: 7
Useful as: Enrichment Material
Available from: Dr. Robert Alexander
Department of Physiology
Albany Medical College
Albany, N.Y. 12208
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health and graduate students

Central Venous Pressure Monitoring

Concerns definition, physiology, indications, limitations, and technique of central venous pressure monitoring. Points out use of CVP monitoring in differentiating cardiogenic, endotoxic, and hypovolemic shock. Illustrates four basic points of entry for CVP catheters.

13 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 6
Useful as: Enrichment Material
Available from: Davis and Geck Co., American Cyanamid Company
Film Library, 1 Casper Street
Danbury, Connecticut 06810
Recommended: Basic Sciences: Medical students
Clinical Sciences: Medical students, specialty and continuing education.

Blood Pressure Readings

Shows a manometer with accompanying, synchronous Korotkoff sounds for the blood pressures of fourteen patients.

30 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Enrichment Material
Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Georgia 30324
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students

Shock

Shows case discussions of pathophysiology, diagnosis, and modern management of hypovolemic and other forms of shock. Moderated by Dr. Jerrold K. Longerbeam, Associate Professor of Surgery, Loma Linda University School of Medicine.

58 min. Sound. Black & white 16MM Motion Picture
standard video tape transcription
Content: 5; Production quality: 5
Useful as: Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 North Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students
Clinical Sciences: Medical, veterinary, and nursing and allied health students.

Lillehei on Stagnant Shock

Deals with stagnant shock exclusively, and overpushes steroids in its treatment; has fairly good views of microcirculation.
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: Professional Film Library
7000 Portage Road
Kalamazoo, Michigan 49001
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students.

Life Support Techniques in Intensive Care, Part III: Monitoring and Support of Circulation.

This third film on intensive care techniques with the emphasis on monitoring and support of circulation demonstrates measurement of oxygen content in blood, calculation of arterial oxygen transport, blood volume determination, arterial catheterization, insertion of central venous lines and pulmonary arterial catheters, cardiac output determination, computer utilization, arrhythmia control, the use of pacemakers, and electrical safety precautions.
28 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 9
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Medical Illustrations Department
University of Pittsburgh
Pittsburgh, Pa. 15213
Recommended: Clinical Sciences: Medical and nursing and allied health students.

Coarctation of the Aorta

Discusses embryology, anatomy, and physiology of coarctation of the aorta; shows clinical features, roentgen findings, and surgical treatment. Demonstrates a resection of coarctation with end-to-end anastomosis. Shows patient three months after operation.
22 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Davis and Geck Company
Film Library, 1 Casper Street
Danbury, Connecticut 06810
Recommended: Basic Sciences: Medical students
Clinical Sciences: Medical and nursing and allied health students, specialty and continuing education.

Heart and Circulatory System

Animated description of pulmonary systemic circulations and heart.
Content: 4; Production quality: 9
Useful as: Enrichment Material
Available from: Films, Inc.
1144 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: Undergraduate, high school students; lay .

The Actions of Adrenergic Stimulants and Antagonists on the Cardiovascular System

Discusses the actions of experimental drugs on the heart and blood pressure of animals.
20 min. Sound. Black & white. 16MM Motion Picture
Useful as: Primary Educational Instrument
Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Georgia 30324
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, and undergraduate students
Clinical Sciences: Medical students.

Cinematic Self-Instruction in Pharmacology

Discusses effects of adrenergic and cholinergic drugs on the perfused mammalian heart. Shows effects of norepinephrine and acetylcholine on electrical and mechanical properties of cardiac function. Outlines the anatomy and physiology of the autonomic nervous system and shows drug modification of autonomic function. Illustrates the effects of cholinergic, anticholinergic, adrenergic, and antiadrenergic drugs.
27 min. Sound. Black & white. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: National Medical Audiovisual Center
Station K
Atlanta, Georgia 30324
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students.

Heart and Circulatory System

Every instant of the day, it beats. Every instant of the night, it beats. When it stops, life stops. The heart, the life giver, no bigger than a clenched fist, is the most wonderful pump in the world.
11 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Films, Inc.
1144 Wilmette Ave.,
Wilmette, Ill. 60091
Recommended: Basic Sciences: High school and lay.

Harvey and Blood Circulation

The story of the development of the most essential concepts for accurate understanding of bodily functions, the contributions of successive physicians and anatomists are shown, culminating in the re-creation of several of Harvey's most critical experiments.

30 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 7
Useful as: Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students; lay
Clinical Sciences: Medical students, continuing education.

Arterial Blood Pressure Regulation

Fundamental to this film is the general principle that the arterial pressure should be capable of accurate regulation. The normal function of every organ in the body is dependent upon the provision of a blood supply appropriate to its metabolic requirements. The film illustrates experiments performed on the decerebrate rabbit. Femoral arterial pressure is recorded by a transducer and is visualized, together with heart-rate on a projector physiograph. The dissection and identification of the vagus, cardiac depressor, and cervical sympathetic nerves in the neck is shown. Alteration in the afferent activity in the depressor nerves in response to an increase or decrease in arterial pressure is demonstrated on an oscilloscope. The effects of stimulating the depressor nerves, clamping the carotid arteries and the injection of adrenaline and acetylcholine are illustrated and the responses discussed with the aid of animated diagrams. Finally, the chest is opened and positive pressure ventilation is described. The effects of vagal stimulation are then shown on the exposed heart.

19 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 5
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Educational Services
John Wiley & Sons, Inc.
605 Third Ave.,
New York, N.Y. 10016
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical and dental students.

Control of the Heart: Parts I, II and III

Discusses the role of the autonomic nervous system, hormones, distention, and the environment in modifying cardiac activity. High quality slides are coupled with carousel-triggering cassette tapes. Each slide is accompanied by a 30-second audio commentary. Each part builds upon the first. Three 15-20 min. sets.

50 min. Sound. Color. Slide tape. 35MM, 2x2 slides
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: Daniel Moore
Audio-Visual Center
Wayne State University
Detroit, Michigan 48202
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health and graduate students.

The Heart: Attack

This film is a compelling, in-depth explanation of the primary causes of heart disease and attack. By following an actual coronary victim from ambulance to operating table we learn what happens in the heart and hospital during the trauma.

25 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality; 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Association Sterling Films
2221 South Olive St.
Los Angeles, Calif. 90007
Recommended: Basic Sciences: Medical, nursing and allied health, undergraduate, high school and lay.

Disorders of the Heart Beat

Animation of heart conduction and heart beat initiation shown, followed by abnormal types of heart beat.

30 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: American Heart Association
44 East 23rd Street
New York, N.Y. 10010
Recommended: Basic Sciences: Dental, veterinary, nursing and allied health, high school students; lay
Clinical Sciences: Dental, nursing and allied health students.

Cardiac Auscultation

An audio presentation, utilizing the heart sound simulator with accompanying text and illustrations. 12, 33-1/3 records 15-20 minutes each examining mitral stenosis, splitting of sounds and second heart sound, the first heart sound and murmurs, mitral regurgitation, abnormal and extra heart sounds, aortic valve lesions, congenital heart disease, auscultatory phenomena in other diseases, and cardiac arrhythmias. All on 12 seven inch plastic records.

Content: 7; Production quality: 7

Useful as: Primary Educational Instrument and Enrichment Material
Available from: Merck Sharp and Dohme
West Point, Pa. 19486
Recommended: Basic Sciences: Medical, dental and nursing and allied health students
Clinical Sciences: Medical, dental and nursing and allied health students.

Congenital Malformations of the Heart (Part I): Development of the Normal Heart

Cinemicrography of the growing chick embryo is used to illustrate the early development of the primitive cardiac tube. Partitioning of this convoluted tube into a four-chambered heart and corresponding arterial trunks is presented by means of animated drawings. The changes which occur in fetal circulation at the time of birth are also schematically presented.
15 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Enrichment Material
Available from: Audio-Visual Services
115 Lewis Street
University of Washington
Seattle, Washington 98195
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health students.

Functional Anatomy of Mitral Valves

Anatomy of human heart aortic valve shown, casts of valves, cineangiographic sequences demonstrated. Correlated phonocardiograms and cineangrograms are shown, for the normal heart and various abnormalities.
32 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 8
Useful as: Primary Educational Instrument
Available from: American Heart Association
44 East 23rd Street
New York, N.Y. 10010
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students.

Functional Anatomy of Aortic Valves

Mitral valve anatomy shown and casts demonstrated. Mitral catheterization used in cineangio-cardiography to visualize the mitral valve in health and disease.
32 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 9
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Heart Association
44 East 23rd Street
New York, N.Y. 10010
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health and graduate students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health students, specialty.

Action of the Human Heart Valves

Demonstrates the normal function of the pulmonary, tricuspid, aortic, and mitral valves of the heart; uses case histories to demonstrate disorders of the heart valves, and shows instruments and operating techniques which have been used successfully in correcting these disorders.

20 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary, and nursing and allied health students
Clinical Sciences: Medical and veterinary students; specialty.

Chronic Extrinsic Cardiac Denervation by Regional Neural Ablation

Depicts an experimental operative technique whereby the nerves which regulate heart function are removed. Allows for study of heart function independent of direct nervous influences; suggests physiologic, pharmacologic, and metabolic responses which may be anticipated following heart transplant.

20 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 7
Useful as: Enrichment Material
Available from: National Medical Audiovisual Center Annex
Station K
Atlanta, Georgia 30324
Recommended: Basic Sciences: Medical, dental, veterinary, and graduate students
Clinical Sciences: Medical students.

Functions of Carotid Sinus and Aortic Nerves, Part I: Pressoreceptors

Demonstrates the stucture and function of the pressoreceptors of the carotid sinus and aortic regions. This film begins with Czermaki's observations in 1866 and passes on to the effects on blood pressure of clamping the carotid arteries with and without section of the depressor or aortic nerves.

39 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: Imperial Chemical Industries of America, Inc.
Wilmington, Del. 19899
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied heath, and graduate students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students.

Work of the Blood

Analyzes the structure of blood cells and the composition of plasma. Uses animation and X-ray film to illustrate the functions of the circulatory system. Demonstrates methods of typing blood and giving transfusions.

15 min. Sound. Black & white/color. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: Undergraduate, high school students; lay

Phase Microscopy of Normal Living Blood Cells

Compares the various circulating blood cells as they appear in Wright's stained preps and in the living state when examined under dark phase microscopy. Neutrophils, eosinophiles, basophils, lymphocytes, blood platelets, erythrocytes are compared, by showing the stained cells first, followed by the living cells with its morphology and motility.

27 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Audio-Visual Services
115 Lewis Street
University of Washington
Seattle, Washington 98195
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical students.

Nutritional Anemias, Part II — Megaloblastic Anemia

Depicts anemias due to vitamin B-12 and folic acid deficiencies. Illustrates through bone marrow studies, peripheral blood smears, and animated case records, the effect of both vitamin B-12 and folic acid on patients with deficiencies of these two vitamins. Shows physical diagnostic signs and gives recommendations for treatment.

32 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 7
Useful as: Primary Educational Instrument
Available from: Wayne State University
Auido-Visual Center
5448 Cass Avenue
Detroit, Michigan 48202
Recommended: Basic Sciences: Medical, veterinary, nursing and allied health students
Clinical Sciences: Medical, nursing and allied health students, specialty and continuing education.

Current Status of Anticoagulant Therapy

Describes the white, red, and mixed thrombus, and stresses implications. Graphically illustrates the action of heparin and coumarins on the clotting mechanism. Discusses the clinical use of these drugs in myocardial infarction, cerebrovascular disease, thromboembolic disease, congestive heart failure, and venous disease. Participants: Daniel Deykin, M.D. and Edwin W. Salzman, M.D., Harvard Medical School.

30 min. Sound. Black & white. 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Enrichment Material
Available from: National Medical Audio-Visual Center Annex
Station K
Atlanta, Georgia 30324
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate students
Clinical Sciences: Medical, dental, veterinary, nursing and allied health, and graduate students; specialty and continuing education.

White Thromboembolism and Vascular Fragility in the Hamster Cheek Pouch After Anticoagulants

15 min. Sound. Black and white. 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Enrichment Material
Available from: Boston University
School of Education
Krasker Memorial Film Library
765 Commonwealth Avenue
Boston, Massachusetts 02215
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, and undergraduate students
Clinical Sciences: Medical and nursing and allied health students.

Conjugated Estrogens in Bleeding: A Progress Report

A progress report on the use of conjugated estrogens in spontaneous capillary bleeding. Discussed are the influence of acid mucopolysaccharides on the ground substance in and around the capillaries, and how the injection of conjugated estrogens increases the acid mucopolysaccharide content, causing a shift toward the gel-state in the ground substance and increasing capillary strength. The use of the petechiometer in measuring capillary strength is demonstrated.

20 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 9
Useful as: Enrichment Material
Available from: Association-Sterling Films, Inc.
324 Delaware Avenue
Allegheny County
Oakmont, Pennsylvania 15139
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health students
Clinical Sciences: Medical, dental, nursing and allied health students, specialty and continuing education.

Hemostatis: Part I: Laboratory Aspects

A seminar presenting the basic and current concepts of the coagulation mechanism. A detailed review of a practical approach to the detection and identification of the causes of bleeding disorders.

44 2x2 Color Slides with Accompanying Cassette Tape
Content: 4; Production quality: 4
Useful as: Enrichment Material
Available from: American Society of Clinical Pathologists
2100 West Harrison St.
Chicago, Ill. 60612
Recommended: Basic Sciences: Dental, nursing and allied health students
Clinical Sciences: Dental, nursing and allied health students.

Hemostasis: Part II: Clinical Aspects

A seminar presenting the basic and current concepts of the coagulation mechanism. A detailed review of a practical approach to the detection and identification of the causes of bleeding disorders.

59 2x2 Color Slides with Accompanying Cassette Tape
Content: 4; Production quality: 4
Useful as: Enrichment Material
Available from: American Society of Clinical Pathologists
2100 West Harrison St.
Chicago, Ill. 60612
Recommended: Basic Sciences: Dental, nursing and allied health students
Clinical Sciences: Dental, nursing and allied health students.

Clot Retraction

Time-lapse photography of a large number of blood clots in test tubes under varying conditions to illustrate effects of various agents, conditions, etc. on blood clotting behavior.

20 min. Silent. Color. 16MM Motion Picture
Content: 4; Production quality: 4
Useful as: Enrichment Material
Available from: Wayne State University
Audio-Visual Center
5448 Cass Avenue
Detroit, Michigan 48202
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health students
Clinical Sciences: Medical students, continuing education.

Diagnosis and Treatment of Renal-Vascular Hypertension

Describes the biochemical, physiological, and pathological changes associated with hypertension. Demonstrates diagnostic procedures used in pin-pointing hypertension of renal-vascular origin. Discusses surgical treatments of choice for various conditions, and factors influencing the outcome of surgery.

20 min. Sound. Color. 16MM Motion Picture

Content: 5; Production quality: 5

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Eaton Laboratories
Medical Film Division
17 Eaton Avenue
Norwich, N.Y. 13815

Recommended: Basic Sciences: Medical students
Clinical Sciences: Medical, nursing and allied health students, specialty and continuing education.

Edema and Mercurial Diuresis

Presents the mechanisms of edema, their relationship to congestive heart failure, and the mechanisms of action plus the therapeutic role of the mercurial diuretics in controlling edema. Illustrates the roles of renal and extrarenal dynamics.

12 min. Sound. Color. 16MM Motion Picture

Content: 6; Production quality: 7

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Wyeth Laboratories Film Library
P.O. Box 8299
Philadelphia, Pa. 19101

Recommended: Basic Sciences: Medical, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical students.

Hemo the Magnificent

Presents the story of blood and circulatory system, using animation to show the functions of the heart, lungs, and kidneys. To explain the nerve mechanism affecting heart action, arteries and veins, composition of blood, and causes of knockout and shock, photographs show the beating of the human heart in slow motion, and the flow of blood through capillaries, arteries, and veins.

59 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 7

Useful as: Enrichment Material

Available from: American Telephone and Telegraph Co.
195 Broadway, Room 510-A
New York, N.Y. 10007

Recommended: Basic Sciences: Undergraduate and high school students, lay.

EXCRETION

The members of the Excretion panel included: the Chairman, Leonard Share, Ph.D., Chairman, Department of Physiology & Biophysics, University of Tennessee, Memphis, Tenn.; Jack M. Ginsburg, Ph.D., Medical College of Georgia, Eugene Talmadge Memorial Hospital, Augusta, Ga.; L.S. Navar, Ph.D., Department of Physiology, University of Mississippi Medical Center, Jackson, Miss.; Franklyn Knox, M.D., Department of Physiology, Mayo Clinic, Rochester, Minn.; A. Clifford Barger, M.D., Department of Physiology, Harvard University Medical School, Boston, Mass.

Diuresis

A comprehensive study of the kidney including discussion of anatomy, physiology, function, formation of urine and hairpin countercurrent principle. Discusses patients with acute and chronic glomerulonephritis, chronic nephritis, nephrotic syndrome, pyelonephritis, congestive heart failure, and hepatic cirrhosis. Stresses the mechanism of action and usefulness of various diuretics.

48 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary, graduate and undergraduate students
Clinical Sciences: Medical students, specialty, continuing education.

Work of the Kidneys

Describes the structure and function of the renal system. Demonstrates, through animated drawings and laboratory experiments, the formation of urine, the regulation of blood composition, and the functioning of the bladder. Explains the relation of blood pressure to the urine flow and the rate of secretion as affected by sugar, water, and temperature.

11 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: High school students; lay.

Fluid Movement in the Kidney, Part I: Renal Tubules of the Rat

Shows dye passing through kidney tubules, proximal to distal tubule, visibly appearing to the naked eye. Higher magnifications show details of process.

Super 8MM Film Loop Cassette. 5 min. Silent. Color.
Content: 7; Production quality: 5
Useful as: Enrichment Material
Available from: Harper and Row Publishers
2350 Virginia Avenue
Hagerstown, Maryland 21740
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate students
Clinical Sciences: Medical students, specialty and continuing education.

Fluid Movement in the Kidney, Part II: Papilla in the Golden Hamster

Shows the flow of glomerular filtrate through the loop of Henle and the collecting ducts, with urine finally entering the pelvis of the kidney. Nontoxic, filterable dye was added to blood so glomerular filtrate is colored by the dye and is thus visible.

Super 8MM Film Loop Cassette. 5 min. Silent. Color.
Content: 7; Production quality: 5
Useful as: Enrichment Material
Available from: Harper and Row Publishers
2350 Virginia Avenue
Hagerstown, Maryland 21740
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate students
Clinical Sciences: Medical students, specialty, continuing education.

Vascular and Tubular Organization of the Kidney

Kidney vascular system is injected with red latex and then cleared in various histological prep. solutions. Vascular organization becomes clear. Then white silicone is injected into Bowman's space and beautifully photographed sequences show white fluid passing into the extremely complex convoluted system of tubules making up a nephron.

25 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 9
Useful as: Enrichment Material
Available from: American Hoechst Pharmaceuticals
Somerville, N.J. 08876
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health students, specialty, continuing education.

Dye Transfer by Renal Tubules

Shows five dye diffusion experiments with simple animation and living tissue demonstrations.
9 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 4
Useful as: Enrichment Material
Available from: Armed Forces Institute of Pathology
Audio-Visual Support Center
Washington, D.C. 20305
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students
Clinical Sciences: Specialty.

Autonomic Nervous System—The Bladder

Presents anatomical discussion and diagnosis of the organization of the A.N.S. supplying the bladder.
18 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 7
Useful as: Primary Educational Instrument
Available from: Association Sterling Films, Inc.
600 Grand Avenue
Ridgefield, N.J. 07657
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students
Clinical Sciences: Continuing education.

Regulation of Concentration of Body Fluids

Discusses the mechanism of countercurrent exchange in the kidney, responsible for maintenance of body fluid concentration; urine formation and Na^+ and K^+ handling by the nephrone.
Slide—Audiotapes each consisting of 30-40 min. in length; 20 2x2 35MM Color Slides
Others in this series are: Mechanism of Hyponatremia (21 slides)
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Howard S. Frazier
Department of Medicine
Harvard Medical School at Beth Israel Hospital
330 Brookline Ave.,
Boston, Mass. 02215
Recommended: Basic Sciences: Medical, dental, veterinary and graduate students.
Clinical Sciences: Medical, dental, veterinary and graduate students, specialty and continuing education.

Learning Programs in Physiology: Renal Clearance

To present basic terminology and accepted concepts as basis for subsequent lecture and conference discussion of more sophisticated (and less dogmatic) material.

Learning Program: Each section designed to replace 1 hour of formal lecture. In mimeograph form; specimen copies only available.

Content: 8; Production quality: 7

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Department of Physiology
Albany Medical College
Albany, N.Y. 12208

Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate students
Clinical Sciences: Medical, veterinary students, specialty and continuing education.

South of Waldeyers

Demonstrates the anatomy, physiology, and embryology of the urinary tract beginning at the uretero-vesical junctions and including the bladder neck and urethra. Uses simple schematic drawings. Presents a new theory of the physiology of voiding and the anatomy and physiology of the urinary sphincter mechanisms.

20 min. Sound. Color. 16MM Motion Picture

Content: 8; Production quality: 9

Useful as: Primary Education Instrument

Available from: Eaton Laboratories
Medical Film Division
17 Eaton Avenue
Norwich, N.Y. 13815

Recommended: Basic Sciences: Medical, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical students, specialty, continuing education.

The Patient Who Cannot Drink

Reviews the basic facts of fluid balance, shows the principal electrolytes of intracellular and extracellular compartments of body fluids. Presents the concept of the milliquivalent as a measure of the activity of electrolytes, and explains the role of the kidney in maintaining electrolyte balance. Raises questions for students regarding the fluid problem and the supportive care of two patients who cannot eat.

18 min. Sound. Color. 16MM Motion Picture

Content: 5; Production quality: 9

Useful as: Enrichment Material

Available from: Mayo Clinic
Section of Photography
Rochester, Minn. 55902

Recommended: Nursing students.

Functional Anatomy of the Human Kidney

First microscopic view of kidney specimens are used to identify and describe each part of the nephron in vivo. Micrography of the frog kidney and animation show kidney circulation. In vivo microscopic observation of blood passing through the proximal and distal tubules of rats is also shown. The second section of the film examines the ultra structure of each of the parts of the kidney through light and electron micrograph and stereograms based on the micrograph. The third section describes the mechanisms in the formation of urine including countercurrent multiplier system.

25 min. Sound. Color. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn St.
Chicago, Ill. 60610
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical, veterinary students, specialty and continuing education.

Mikrozirkulation von Lissamingrun in der Warmbluterniere

Shows dye passing through kidney tubules, proximal to distal tubule, visibly appearing to the naked eye. Higher magnifications show details of process. Also shows the flow of glomerular filtrate through the loop of Henle and the collecting ducts, with urine finally entering the pelvis of the kidney. Nontoxic, filterable dye was added to blood so glomerular filtrate is colored by the dye and is thus visible.

12 min. Sound. Color. 16MM (English narration)
Content: 8; Production quality: 8
Useful as: Enrichment Material
Available from: Limited Availability. Inquiries to:
American Physiological Society
9650 Rockville Pike
Bethesda, Md. 20014
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate students
Clinical Sciences: Medical students, specialty, continuing education.

Note: Material in this film is contained in silent form in the two Super 8MM Cassettes available from Harper & Row: Fluid Movement in the Kidney Part I & Part II.

DIGESTION

The members of the Digestion Panel included: the Chairman, H. W. Davenport, Ph.D., Chairman, Department of Physiology, University of Michigan, Ann Arbor, Mich.; Frank Brooks, Ph.D., Deaprtment of Physiology, University of Pennsylvania School of Medicine, Philadelphia, Pa.; Ivan E. Danhof, Ph.D., Department of Physiology, University of Texas, Southwestern Medical School, Dallas, Tex.; Phyllis H. Bogner, Ph.D., Department of Pharmacology, University of Illinois College of Medicine, Chicago, Ill.

Digestion: Part I: Mechanical

Animated diagrams show the mechanical and muscular processes involved in the ingestion and digestion of food in the human body.

15 min. Sound. Black & white. 16MM Motion Picture
Content: 9; Production quality: 9
Useful as: Primary Educational Instrument
Available from: Universal Education and Visual Arts
221 Park Avenue South
New York, N.Y. 10003
Recommended: Basic Sciences: Nursing and allied health, graduate, undergraduate, and high school students.

Digestion: Part II: Chemical

Shows chemical changes involved in the digestion of the three main types of foods – carbohydrates, proteins and fats. The entire digestive process is diagrammed to show absorption and storage of digested or simplified substances in the body.

18 min. Sound. Black & white. 16MM Motion Picture
Content: 7; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Universal Education and Visual Arts
221 Park Avenue South
New York, N.Y. 10003
Recommended: Basic Sciences: Nursing and allied health, graduate, undergraduate, and high school students.

Gastric Functions

A teaching aid including 2x2 color slides with explanatory printed text covering basic gastric function. Topics include hydrochloric acid production, transport of H^+, Cl^-, HCO_3, complex molecules split by HCl and enzymes, pepsin production, action of lipase, pepsin, and amylase, close-up of gastric mucosa, common electrolytes in gastric secretion, the gastric glands, columnar cells, control of passage of chemicals, storage and transport in the stomach, role of the brain, simulation of gastric secretions by food and intrinsic factor.

25 2x2 Color Slides and 12 Syllabi
Content: 9; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Nutrition Today
1140 Connecticut Ave.
Washington, D. C. 20036
Recommended: Basic Sciences: Medical and graduate students.
Clinical Sciences: Medical students

Intestinal Malabsorption I: Carbohydrates

Slide tape presentation covering the digestion and absorption of carbohydrates in normal circumstances. The enzyme breakdown of carbohydrates and absorption of the products in the small intestine is discussed. Carrousel triggering tape cassette with 19 color 2x2 slides.

30 min. 19 Color 2x2 Slide-Tape, with accompanying text.
Content: 9; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Society of Clinical Pathologists
2100 West Harrison St.
Chicago, Ill. 60612
Recommended: Basic Sciences: Medical, dental, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical students.

Bile

Color slides accompanied by audio tapes discussing formal clinical point of view, varied aspects of bile, its formation, circulation and function in health and disease.

Series of 8 sequences of 5 to 25 each 2x2 35MM color slides
Content: 9; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: National Audiovisual Center
Washington, D. C.
20409
Recommended: Basic Sciences: Medical, dental, veterinary, graduate, undergraduate students
Clinical Sciences: Medical students, specialty, continuing education.

Absorption of Fat

A Series on The Absorption and Malabsorption of Fat
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument and Enrichment Material
Available from: National Audiovisual Center
Washington, D. C.
20409
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students
Clinical Sciences: Medical students, specialty and continuing education.

Introduction: The Absorbing Surface
12 2x2 color slides with accompanying tape cassette.

Fat Digestion: Lypolysin and Micelle Formation Disorders
30 2x2 color slides with accompanying tape cassette.

Fat Absorption: Intracellular Events: Disorders
20 2x2 color slides with accompanying tape cassette.

The Enterohepatic Circulation of Bile Acids
Discusses bile acids and their circulation with basic science foundation and clinical application.
18 2x2 color slides with accompanying tape cassette.

Properties of Pancreatic Lipase
16 2x2 color slides with accompanying tape cassette.

Assessment of Fat Digestion
40 2x2 color slides with accompanying tape cassette.

Differential Diagnosis of Steatorrhea
The clinical and basic scientific aspects of steatorrhea.
25 2x2 color slides with accompanying tape cassette.

The Usefulness of Medium Chain Triglycerides
19 2x2 color slides with accompanying tape cassette.

Gastrointestinal Absorption
Treats normal G.I. absorption in well-done anatomical drawings presented as slides. Text accompanies and amplifies treatment.
9 2x2 color slides with accompanying tape cassette.

Intestinal Malabsorption
Discusses in test form, with slides for major points, the disorders of absorption in the intestine.
10 2x2 color slides with accompanying tape cassette.

Clinical Information Program: Gastroenterology

A Series of Six Audiotapes in Cassette Form.
Approx. 60 min. each.
Content: 6; Production quality: 4
Useful as: Enrichment Material
Available from: Science and Medicine Publishing Co., Inc.
3 West 56th St.
New York, N.Y. 10019
Recommended: Basic Sciences: Medical, dental, nursing and allied health students
Clinical Sciences: Medical, dental, nursing and allied health students, specialty and continuing education.
Description of each is as follows:

Clinical Information Program/Gastroenterology (#1)
Obstructive GI disorders, GI sounds as diagnostic clues.

Clinical Information Program/Gastroenterology (#2)
Acute abdominal pain. Normal and abnormal GI sounds.

Clinical Information Program/Gastoenterology (#3)
Malabsorption diagnosis and treatment.

Clinical Information Program/Gastroenterology (#4)
GI bleeding: differential diagnosis.

Clinical Information Program/Gastroenterology (#5)
GI infections and therapy.

Clinical Information Program/Gastroenterology (#6)
The causes of diarrhea.

The Mechanism and Control of Nausea and Vomiting

Using cinefluoroscopy and animation, this film reviews some of the disease states that cause vomiting, and illustrates the roles of the gastrointestinal, respiratory and central nervous systems in the vomiting act. A description is given of the experimental evidence obtained during the past ten years for the separate functions of the vomiting center and the chemoreceptor trigger zone. The pharmacological rationale for the control of vomiting with phenothiazine drugs is described, and the place of phenothiazine antiemetic agents in conservative therapy is discussed. The appearance of side effects and their management are also explored.

28 min. Sound. Color. 16MM Motion Picture
Content: 6; Production quality: 7
Useful as: Primary Educational Instrument
Available from: American Medical Association
535 N. Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate students
Clinical Sciences: Medical students, specialty and continuing education.

The Human Throat

Description of pharynx and larynx, anatomy and function. Shows how the larynx closes to permit passage of food during swallowing.

11 min. Sound. Black & white. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Primary Educational Instrument
Available from: Bray Studios
630 9th Avenue
New York, N.Y. 10036
Recommended: Basic Sciences: Medical, dental, nursing and allied health, undergraduate, high school students; lay
Clinical Sciences: Specialty and continuing education.

Movements of the Rabbit's Alimentary Canal

A demonstration of the movements of the whole length of the alimentary canal. A spontaneous remittent intussusception is seen.

12 min. Silent. Color. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Burroughs-Wellcome & Company
3030 Cornwallis Road
Raleigh, North Carolina
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students.

Cinefluoroscopy of the Stomach and Small Intestine

Two episodes of antral peristalsis. Two episodes of intestinal segmentation.

10 min. Black & white. Silent. 16MM Motion Picture
Content: 8; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Limited availability
Dept. of Physiology
University of Michigan
Ann Arbor, Michigan 48104
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students; lay
Clinical Sciences: Medical students, specialty and continuing education.

Gastrointestinal Function in the Rabbit

Detailed step-by-step technique of dissection and cannulation of carotid and jugular and the small intestine for the purpose of recording blood pressure and gut motility simultaneously. Results of drug injection and testing and cooling of gut shown.

20 min. 64 2x2 Color Slides (with accompanying audio-tape cassette)
Content: 8; Production quality: 6
Useful as: Enrichment Material
Available from: Dr. John Horwitz
University of California
Davis, Calif. 95616
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students.

Small Intestine: Motility and Vaso-Motor Activity

Animation introduces the motility patterns and the experimental procedures for demonstrating them in the anesthetized, living rabbit. Microscopic views show the vasomotor activity that underlies the serosal color changes in the gross views of the small intestine. These effects are demonstrated: (1) parasympathetic: vagus stimulation, acetylcholine injection, and pilocarpine injection; (2) sympathetic: reflex following afferent sciatic stimulation, and adrenaline injection; and (3) posterior pituitary hormone: injection of vasopressin, and injection of oxytocin.
18 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Audiovisual Center
Division of Extension and University Services
The University of Iowa
Iowa City, Iowa 52240
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate and undergraduate students.

Human Gastric Function

Reports on an experimental study of a patient with extensive gastric fistula. Describes how this allowed study of the mucosa, secretory action, and gastric motility, and permitted insight into the stomach's responses to different psychological states and stresses.
18 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: American Medical Association
Motion Picture Library
535 N. Dearborn Street
Chicago, Illinois 60610
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students; lay
Clinical Sciences: Medical students, specialty and continuing education.

If I Had an Ulcer

Lecture presentation from point of view of one's own ulcer. Differentiates gastric and duodenal ulcers. Describes treatment, types of ulcers and patients (penetrating and perforating, etc.). Techniques of closing perforated ulcer shown. Complications examined.

25 min. Color. Sound. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Enrichment Material
Available from: Warner-Chilcott Laboratories
201 Tabor Road
Morris Plains, N.J. 07950
Recommended: Basic Sciences: Medical, nursing and allied health students
Clinical Sciences: Medical, nursing and allied health students, continuing education.

The Digestive System

Describes the complex process of human digestion; includes scenes of human digestion filmed by X-ray motion picture photography.

17 min. Sound. Black & white/color. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Primary Educational Instrument
Available from: Films, Inc.
1144 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: Nursing and allied health, undergraduate, high school students; lay.

The Rumen Story

Actual digestive processes in a live cow are recorded as illustration of the complexity of the problems involved in determining the most efficient diet for ruminants.

28 min. Sound. Color. 16MM Motion Picture
Content: 9; Production quality: 9
Useful as: Enrichment Material
Available from: Ralston Purina Corp.
St. Louis, Mo. 64505
Recommended: Basic Sciences: Veterinary and nursing and allied health students.

Digestion in Our Bodies

The steps in the digestive process are traced and functions of main organs explained. Shows how and why food must be digested before the body can use it, and why correct eating attitudes and habits are important. X-ray technique and simplified diagrams help explain digestion.

11 min. Sound. Black & white/color. 16MM Motion Picture
Content: 5; Production quality: 8
Useful as: Primary Educational Instrument
Available from: Coronet Films, Inc.
65 E. South Water Street
Chicago, Illinois 60601
Recommended: Basic Sciences: Lay.

COMPARATIVE, GENERAL & PLANT PHYSIOLOGY

The members of the Comparative, General & Plant Physiology panel included: the Chairman, Philip B. Dunham, Ph.D., Department of Biology, Syracuse University, Syracuse, N.Y.; Richard A. Nystrom, Ph.D., Department of Biological Sciences, University of Delaware, Newark, Del.; G. R. Noggle, Ph.D., Department of Botany, North Carolina State University, Raleigh, N.C.; Helen Stafford, Ph.D., Department of Biology, Reed College, Portland, Or.; Ingrith Deyrup-Olsen, Ph.D., Department of Zoology, University of Washington, Seattle, Wash.; Leonard Kirschner, Ph.D., Department of Zoology, Washington State University, Pullman, Wash.; William Dantzler, Ph.D., Department of Physiology, Arizona College of Medicine, Tucson, Ariz., and Beverly Bishop, Ph.D., Department of Physiology, State University of New York, Buffalo Medical School, Buffalo, N.Y.

Animals without Backbones

Nature photography shows the structures of invertebrates, how they move about, and how their bodies are supported. The film contrasts invertebrates with the vertebrates. Important differences are illustrated by contrasting the skeleton of a cat with the exoskeletons of a grasshopper and a crayfish. Many of the invertebrates are seen in their natural habitats, and their structural similarities and differences are emphasized. The film includes photography of arthropods, spiny-skinned animals, mollusks, sponges, bag-like animals, and earthworms, and shows these animals carrying out some of their life functions.

11 min. Sound. Black and white/color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Enrichment Material
Available from: Coronet Films
65 E. South Water Street
Chicago, Illinois 60601
Recommended: Basic Sciences: High school students; lay
Clinical Sciences: High school students, specialty, continuing education.

What is a Mammal?

Shows the basic behavioral and structural characteristics of mammals. Clarifies major differences in the evolutionary development of reptiles and mammals, and shows the superiority of mammals. Also shows how modern mammals, successfully adapted to a wide variety of conditions, are found in almost every conceivable environmental niche.

14 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: Undergraduate, high school students; lay
Clinical Sciences: High school students, specialty, continuing education.

Chick Embryo

The development of the chick embryo is shown in color and the size of the embryo correlated with the relative size of the egg at each stage. The external surface of the egg is shown at each stage with India ink drawings of the embryo on its surface.

20 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: University of California Extension
Media Center
2223 Fulton Street
Berkeley, California 94720
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students; lay
Clinical Sciences: Undergraduate students, specialty and continuing education.

Anatomy of the Cell

Presentation of dynamic structure of cells. Detailed organelle structure shown. Good balance of classical cytology, electronmicrography and diagrams.

30 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Enrichment Material
Available from: Pasadena Foundation for Medical Research
99 N. El Molino Avenue
Pasadena, California 91101
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students
Clinical Sciences: High school students, specialty, continuing education.

The Cell: A Functioning Structure: Part I

This film covers aspects of the living cell, the basic unit of life. Emphasis is placed on the cell as a dynamic, functioning entity as well as a stable, reproducible structure. The film also covers cellular reproduction and explains mitosis in detail. It explores the intricate organization of the cell's cytoplasm, the region between the nucleus and the membrane.

30 min. Color. Sound. 16MM Motion Picture
Content: 5; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Association Sterling Films
2221 South Olive St.
Los Angeles, Calif. 90007
Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students; lay
Clinical Sciences: High school students, specialty, continuing education.

The Cell: A Functioning Structure: Part II

This film concentrates on the chemical events taking place within the cell. It details protein composition, which leads to a discussion of the genetic code and DNA. The structures of the nucleotides that make up the two chains of DNA are illustrated and described using animation. The disease of sickle cell anemia is used to demonstrate how a single mistake in DNA can result in bodily malfunction. The genetic discussion closes with a look at the Jacob-Monod model of gene regulation. The film concludes with a look at the phenomenon of cellular communication as exemplified by the development of a fertilized egg and the rhythmic, synchronous beating of heart cells in tissue culture.

30 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Association Sterling Films
2221 South Olive St.
Los Angeles, Calif. 90007
Recommended: Basic Sciences: Medical, nursing and allied health, graduate, undergraduate, high school students, lay
Clinical Sciences: High school students, specialty, continuing education.

Cell Biology: Mitosis and DNA

Shows the structure of the DNA molecule. Includes illustration of the five stages of mitotic process, with an explanation of meiosis.

16 min. Sound. Black & white/color 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Coronet Films
65 E. South Water Street
Chicago, Illinois 60601
Recommended: Basic Sciences: Nursing and allied health, undergraduate, high school students; lay
Clinical Sciences: High school students; specialty, continuing education.

The Human Cell and Cytotechnologist

Investigates cellular physiology and pathology in a modern medical center. Shows the role of cytodiagnosis in early detection of cancer.

23 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 4

Useful as: Primary Educational Instrument and Enrichment Material

Available from: National Committee for Careers in Medical Laboratories
9650 Rockville Pike
Bethesda, Maryland 20014

Recommended: Basic Sciences: Nursing and allied health and high school students; lay
Clinical Sciences: Nursing and allied health, high school students; lay; specialty, continuing education.

Cytology, Part I

Introduces the study of cells, their origin, structure, and function.

25 min. Sound. Color. 16MM Motion Picture

Content: 5; Production quality: 4

Useful as: Primary Educational Instrument

Available from: National Committee for Careers in Medical Laboratories
9650 Rockville Pike
Bethesda, Maryland 20014

Recommended: Basic Sciences: Nursing and allied health, high school students
Clinical Sciences: Nursing and allied health, high school students, specialty, continuing education.

Cytology, Part II

Introduces the study of cells, their origin, structure, and function.

25 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 4

Useful as: Primary Educational Instrument

Available from: National Committee for Careers in Medical Laboratories
9650 Rockville Pike
Bethesda, Maryland 20014

Recommended: Basic Sciences: High school students
Clinical Sciences: Nursing and allied health, high school students, specialty, continuing education.

Cell Biology: Life Functions

Investigates the chemical and physical processes in the living cell which provide a basis for the life functions. Chemical reactions involving DNA, RNA, ATP and ADP are shown.

19 min. Sound. Black & white/color. 16MM Motion Picture

Content: 4; Production quality: 5

Useful as: Primary Educational Instrument and Enrichment Material
Available from: Coronet Films
65 E. South Water Street
Chicago, Illinois 60601
Recommended: Basic Sciences: Undergraduate, high school students; lay
Clinical Sciences: High school students, specialty, continuing education.

Combustion Techniques in Liquid Scintillation Counting

Film depicts the method of combusting tissue samples for liquid scintillation counting.
20 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: U. S. Atomic Energy Commission
Office of Public Information
Germantown, Maryland 20767
Recommended: Basic Sciences: Medical, dental, veterinary, graduate, undergraduate, high school students.
Clinical Sciences: Medical, graduate students, specialty, continuing education.

Short-Lived Isotopes in Nuclear Medicine

New methods and applications of short-lived isotopes in nuclear medicine.
22 min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 8
Useful as: Enrichment Material
Available from: U.S. Atomic Energy Commission
Office of Public Information
Germantown, Maryland 20767
Recommended: Basic Sciences: Nursing and allied health students; lay
Clinical Sciences: Medical, dental, veterinary, nursing and allied health students; lay; specialty, continuing education.

The Atomic Fingerprint

Presents the essentials of neutron activation analysis and finds practical applications in virtually all areas of science.
12½ min. Sound. Color. 16MM Motion Picture
Content: 4; Production quality: 5
Useful as: Enrichment Material
Available from: Handel Film Corporation
Sunset Boulevard
Hollywood, California 90038
Recommended: Basic Sciences: Medical, veterinary, nursing and allied health, graduate, undergraduate, high school students; lay
Clinical Sciences: Specialty, continuing education.

Basic Gas Chromatography

An extensive 8 part series covering every aspect of gas chromatography. Each part consisting of 10-40 slides and one tape cassette each. The titles of each section are as follows: Basic Relationships and Instrumentation, The Column, Detectors, Sampling, Temperature, Qualitative and Quantitative Analysis, Derivatives, and Chromatographic Screening of Drugs.

35MM 2x2 slides. Color. 30 min. each part.

Content: 6; Production quality: 8

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Communications Skills Corporation
1220 Post Road
Fairfield, Connecticut 06430

Recommended: Basic Sciences: Medical, dental, veterinary, nursing and allied health, graduate, undergraduate, high school students.
Clinical Sciences: Medical, nursing and allied health, graduate, undergraduate, high school students, specialty, continuing education.

Photosynthesis and the Respiration Cycle

By use of animation, the photosynthesis process is visualized both at the microscopic level and at the molecular level. An understanding is given of the complexity of forming a molecule of sugar from water and carbon dioxide. The concept of releasing energy from food is explained. This process of respiration is visualized again at the molecular level.

14 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 7

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Churchill Films
662 North Robertson Boulevard
Los Angeles, California 90069

Recommended: Basic Sciences: Undergraduate, high school students; lay
Clinical Sciences: High school students, specialty, continuing education.

The Riddle of Photosynthesis

Shows role of photosynthesis in growth of food, and use of radiocarbon to explore the process. Describes, with animation, key steps in one of the experiments designed to help solve the riddle.

13 min. Sound. Color. 16MM Motion Picture

Content: 5; Production quality: 5

Useful as: Enrichment Material

Available from: Handel Film Corporation
Sunset Boulevard
Hollywood, California 90038 Basic Sciences: Graduate, undergraduate, high school students; lay

Growth and Morphogenesis in Plant Cells

Turgor pressure and its role in plant morphogenesis demonstrated. Generalizations are supported by experimental evidence. Excellent illustration of some principles of growth.

15 min. Sound. Color. 16MM Motion Picture

Content: 7; Production quality: 9

Useful as: Primary Educational INstrument and Enrichment Material

Available from: Educational Development Center, Inc.
55 Chapel Street
Newton, Mass. 02160

Recommended: Basic Sciences: Medical, graduate, undergraduate, high school students

Time-Lapse Photography of Root Growth

Techniques are shown for taking time-lapse motion pictures of root growth in soil. Then a series of sequences shows roots maturing and the development of root hairs. Effects of oxygen deficiency on root elongation rate, nematodes entering root tissues and the growth of root into a compacted zone of soil.

15 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 7

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Agriculture and Soils Department
Auburn University
Auburn, Alabama 36830

Recommended Basic Sciences: Undergraduate, high school students; lay

Roots of Plants

Describes different kinds of roots and explains how they serve to hold the plant in place, and how they absorb food elements from the soil. Time-lapse photography, cinemicrography, animated drawings and laboratory experiments demonstrate root growth, the work of root hairs and osmosis.

11 min. Sound. Black & white/color. 16MM Motion Picture

Content: 4; Production quality: 5

Useful as: Primary Educational Instrument and Enrichment Material

Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Avenue
Wilmette, Illinois 60091

Recommended: Basic Sciences: Undergraduate, high school students; lay

Organelles in Living Plant Cells

Shows the dynamic properties of living cells, illustrated from higher plant materials, emphasizing the flow of cytoplasm and various cell particles such as mitochondria, chloroplasts, and moving nuclei.

30 min. Sound. Color. 16MM Motion Picture

Content: 4; Production quality: 6

Useful as: Primary Educational Instrument and Enrichment Material
Available from: University of California Extension
Media Center
2223 Fulton Street
Berkeley, California 94720
Recommended: Basic Sciences: Graduate, undergraduate, high school students; lay

Plant Life at Work

Photomicrography and time-lapse photography are used in showing how plants exhibit life functions that characterize all living things, using energy for movement, growth, the manufacture of food, and reproduction. The work accomplished by growing plants is illustrated in detail.
11 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 6
Useful as: Enrichment Material
Available from: Moody Institute of Science, Inc.
P.O. Box 25575
11428 Santa Monica Boulevard
Los Angeles, California 90025
Recommended: Basic Sciences: High school students; lay.

Flowers at Work

The parts and physiology of plant flowers, various types of flowers and different methods of pollination. Every important step is carefully covered in the narrative. The relation of insects to cross-fertilization of flowers. How man has modified flowers by cultivation.
10 min. Sound. Black & white/color. 16MM Motion Picture
Content: 4; Production quality: 7
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: Undergraduate, high school students; lay

Life of a Plant

Shows steps in the life cycle of a typical flowering plant, the pea. Identifies the roles of roots, stems, leaves, flower, fruit and seed. Animated drawings reveal the functioning of the various parts of the plant.
11 min. Sound. Color. 16MM Motion Picture
Content: 5; Production quality: 5
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Avenue
Wilmette, Illinois 60091
Recommended: Basic Sciences: Undergraduate, high school students; lay

Biological Sciences Curriculum Study Slides

These slides are the BSCS Inquiry slide series. They are designed to acquaint the students with important biological concepts, but, more important, to encourage the development of inquiry behaviors among students. Each sequence deals with a single biological topic and involves students in a range of inquiry activities. This series of slides requires extensive teacher preparation in order to be effective. The material gives rise to many questions which only a teacher can answer. The entire series is rated as below and available from Guidance Associates.

Content: 4; Production quality: 6
Useful as: Enrichment Material
Available from: Guidance Associates
Pleasantville, N.Y. 10570
Recommended: Basic Sciences: High school students.

The titles in the series are:

Light and Plant Growth
This sequence focuses on process emphasis: using experiments as tests of hypotheses.
8 2x2 color slides

Plant-Animal Physiology
This sequence focuses on process emphasis: interpreting data.
9 2x2 color slides

Sources of Plant Nutrition
This sequence focuses on process emphasis: interpreting data.
6 2x2 color slides

Cardiac Circulation
This sequence focuses on process emphasis: inferring function from organ relationships.
8 2x2 color slides

Structure and Function
This sequence focuses on process emphasis: use of evidence to hypothesize function.
10 2x2 color slides

Endocrine Pathways
This sequence focuses on process emphasis: selecting tests of hypotheses.
13 2x2 color slides

Dietary Deficiences in Chickens
This sequence focuses on process emphasis: achieving adequate controls.
9 2x2 color slides

Control of the Pancreas
This sequence focuses on process emphasis: relating cause and effect.
14 2x2 color slides

Control of Thyroid Secretion
This sequence focuses on process emphasis: analyzing causal relationships.
9 2x2 color slides

Control of Blood Sugar
This sequence focuses on process emphasis: hypothesizing and interpreting data.
10 2x2 color slides

The Cell Nucleus
This sequence focuses on process emphasis: interpreting data.
7 2x2 color slides

Sensing Mechanisms and Homeostasis
This sequence focuses on process emphasis: using a model to illustrate a concept of function.
13 2x2 color slides

Control of Molting in Insects
This sequence focuses on process emphasis: interpreting and relating the results of experiments.
16 2x2 color slides

Effects of Thyroid Action
This sequence focuses on process emphasis: using progressive analysis of causes.
11 2x2 color slides

Light Intensity and Photosynthesis
This sequence focuses on process emphasis: working with experimental error.
10 2x2 color slides

Photosynthesis

Explains how green plants transform life energy into food by the process of photosynthesis. Laboratory demonstrations are used to show how scientists study the process by which carbon dioxide and water — in the presence of light and chlorophyll — react to produce sugar and release oxygen.
21 min. Sound. Color. 16MM Motion Picture
Content: 7; Production quality: 7
Useful as: Enrichment Material
Available from: Encyclopedia Britannica Films, Inc.
1150 Wilmette Ave.,
Wilmette, Ill. 60091
Recommended: Basic Sciences: High school; lay.

Temporal Patterns of Animal Activity

This film shows the experimental set-up and the recording devices that measure a bird's activity period. The filmed experiments show that resynchronization of the animal to a shifted light-dark cycle is not immediate, but requires several days. This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 4; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Undergraduate and high school students.

Water and Desert Animals

This film deals with problems of water balance and provides an opportunity for student discussion of water gathering and water conservation in desert animals. This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 6; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school sutdents.

Water and Desert Plants

This film provides the student with a visual experience of the unusual ecology of the desert. It establishes the ideas that one of the major problems with which desert plants are faced is the limited availability of water and that a variety of adaptations have evolved in response to this arid environment. This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 4; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students.

Flowering

The photoperiod of a plant can be related to its flowering season and to its habitat. The photoperiod helps insure flowering at the season most advantageous to the plant's survival with respect to climate, pollinators, and other factors. This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 5; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students.

The Feeding Mechanisms of Oyster Drills

This film investigates the complementarity of a structure to its function by examining the feeding habits and mechanisms of predation illustrated by certain marine organisms. Drilling and demineralization mechanisms of two families of boring gastropods are shown. They are representatives of the muricids (rock snails) and the naticids (moon snails). This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 6; Production quality: 7
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students.

Engelmann's Inquiry into Photosynthesis

The film presents scenes of the aerotactic behavior (response to or away from air) of a motile bacterium. Concentrations of the bacteria are shown near air bubbles and in the presence of an algal filament of Spirogyra. The experiments are essentially those of T. W. Engelmann conducted prior to 1882. Interpreting the data leads the student to an understanding of definitive experiments on photosynthesis as presented in Engelmann's work published in 1882, "On the Production of Oxygen by Plant Cells in a Microspectrum." This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 5; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material

Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Undergraduate and high school students.

Phototropism

This film is intended as an inquiry into the mechanisms of phototropism. It involves the students in thinking through the design of some original experiments on phototropism performed by early investigators. The student is also asked to study the data and to make some tentative interpretations regarding the mechanisms of plant response to light. This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 6; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students.

The Kidney and Homeostasis

The cells of the human body do not live in an external environment but are surrounded by liquid which is remarkably constant in its properties. The continued regulation of the many dissolved compounds and ions in this internal environment so that they stay at optimum levels is referred to as homeostasis. The kidneys are extremely important in maintaining this dynamic balance. This "Super 8" film contains material suitable for high school or introductory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 6; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students.

Locomotion in an Amoeba

The film is designed to suggest one way a primitive, but not necessarily simple, organism is adapted for locomotion and to suggest how the student might begin to search for an explanation of the mechanism used. He should be able to see that even such relatively simple life forms exhibit adaptive efficiency in locomotion through complementarity of structure and function. This "Super 8" film contains material suitable for high school or introduc-

tory college students, but requires a high degree of preparation and background information on the part of the teacher in order to be used effectively.

8-10 min. Silent. 8MM Color Film Loop
Content: 6; Production quality: 6
Useful as: Primary Educational Instrument and Enrichment Material
Available from: Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colo. 80302
Recommended: Basic Sciences: Nursing and allied health, undergraduate and high school students.