In Volume IV, Numbers 2 and 3, 1960, a symposium by correspondence on training of the cytotechnologist was published. The symposium consisted of 14 questions (put together by the editorial board), answers, discussions and remarks of 85 invited participants.

The whole symposium took up 180 pages in Acta Cytologica.

EDUCATION PRE-REQUISITES FOR CYTOTECHNOLOGISTS

Hans-Jurgen Soost, Munich, Germany:

One should request the same conditions as those demanded for medical technicians. In Germany this means six years of Gymnasium (high school). The starting age should not be less than sixteen. Thus training will not be finished earlier than eighteen. Boys and girls of lower age groups do not always have the mental maturity which is required in professional life. Future cytotechnologists should learn typewriting and shorthand.

Brigitta Fredrikson, Gothenburg, Sweden:

Considering that Sweden is a small country where exfoliative cytology still is not accepted in all quarters. It seems that the training for histological technicians is a good place to begin. Exactitude, carefulness and patience are the main prerequisites for a good cytotechnologist.

Maria S. Blanco de del Campo, Palo Alto, California, USA:

Cytotechnology candidate benefits from the experience of working as a medical technician, nurse or secretary. Personality traits such as endurance and
keen visual discrimination are very important in the selection of trainees.

Elizabeth H. Gray, Ottawa, Ontario, Canada:

A college diploma is, unfortunately, no more a guarantee of personal integrity and mental maturity than a marriage certificate is of emotional stability.

I believe more attention should be focused on opening the field of cytology to intelligent, mature persons . . . who will stay in the field for many years: the widow with children to support, the nurse with tired feet, the paraplegic, the heart case. We are defeating our own end by encouraging teen-aged women into this field, only to run into competition with early marriage and the stork.

Irena Koprowska, Philadelphia, Pennsylvania, USA:

First preference for admission is given to college graduates who are registered medical technologists. We tend to favor candidates well in their twenties or older.

Raimund Krimmenan, Dresden, Germany:

It should be of interest to be informed whether or not in the USA the cytotechnologist is paid equally well or better than the other laboratory workers.

Charlotte M. Street, New York, New York, USA:

The prerequisites as established in the USA by the Registry of Medical Technologists (ASCP) are two years of college, including twelve semesters of biological sciences. The ideal preparation would include four years of college. This, however, is perhaps impractical in most instances.

Edmund Schuller, Vienna, Austria:

Unfortunately, we lose our pretty young girls due to marriage.

If possible, one should try to train those individuals whom one may not expect to lose shortly to marriage. On the other hand, one cannot state that personnel consisting of matrons would provide ideal climate and working conditions.

SHOULD CYTOTECHNOLOGY BE TAUGHT IN CENTRALIZED SCHOOLS OR IN INDIVIDUAL LABORATORIES?

J. Ernest Ayre, Miami, Florida, USA:

Cytotechnologist training may be undertaken equally well in centralized schools or individual laboratories.

H. Husslein, Vienna, Austria:

I would tend to believe that the education in the individual laboratories is not only adequate, but also more advantageous from the standpoint of a sound practical training.

Hans-Jurgen Soost, Munich, Germany:

The best solution should be aimed at a compromise in which the theoretical pre-education is performed at school and the practical training is performed individually in a laboratory.

WHICH BOOKS AND MONOGRAPHS ARE SUGGESTED FOR THE CYTOTECHNOLOGIST PRIOR TO AND DURING THE PRACTICAL TRAINING?

Warren R. Lang, Philadelphia, Pennsylvania, USA:

Cytology cannot be learned from books alone, (but) the Atlas of Exfoliative Cytology, Cambridge, Mass., 1958, Harvard University Press, written by Dr. Papanicolaou the “father” of cytology . . . is a must to keep on file in every cytology laboratory.

Acta Cytologica is a journal with which cytotechnologists should be well acquainted.

The differences of opinion expressed may be disturbing to the beginner but to the advanced student they are undoubtedly provocative.

SHOULD THE TECHNOLOGIST BE TRAINED IN ALL ASPECTS OF DIAGNOSTIC CYTOLOGY, I.E., SPUTUM, URINE, GASTRIC SECRETION, ETC.?

Ruth M. Graham, Buffalo, New York, USA:

It is an advantage if the technician can be trained in all aspects of diagnostic cytology. This is not always possible, since in many laboratories there is little material other than gynecologic. If the student has seen smears from bronchial washings . . . he will be
able to recognize well preserved endocervical cell with greater certainty. It is important that the student be exposed to these other types of specimens even though he may not expect to screen them in his daily work.

Emmerich von Haam, Columbus, Ohio, USA:

My brief answer to this question is, “Yes.”

Howard L. Richardson, Seattle, Washington, USA:

Cytotechnicians should screen and recognize abnormal cells from multiple sites. Errors in diagnosis . . . can be alleviated by the combined use of the smear and cell block techniques.

PROGRAM OF THEORETICAL EDUCATION FOR CYTOTECHNOLOGISTS

Grace R. Durfee, New York, New York, USA:

A general knowledge of histology and anatomy form the basis for the study of cytology. Anatomy and histology of specific organs should be taught concurrently with the cytology of that site.

Emmerich von Haam, Columbus, Ohio, USA:

One month is devoted to lectures on the female genital tract and two months are devoted to theoretical instruction of the other organ systems.

Herbert E. Nieburgs, New York, New York, USA:

Since there is a place for screening technicians who simply select specimens with abnormal cells from routine smears, the training should be directed strictly towards the accomplishment of this task in order to avoid any unnecessary confusion for the individual in training.

Charlotte M. Street, New York, New York, USA:

A firm foundation should be acquired in anatomy, histology, basic cytology, endocrinology and the general concepts of the structure and behavior of tumors.

PROGRAMS OF PRACTICAL TRAINING FOR CYTOTECHNOLOGISTS

Hans-Jurgen Soost, Munich, Germany:

The first weeks and months must be reserved for learning routine technique . . . staining of smears, preparation of staining material . . . and filing. If the student is sufficiently accustomed to the above activities, he may start practicing the screening of smears (by) using a collection of selected smears and review of older preparations. The final step is the pre-screening of smears. The student should be present when the cytologist reviews the preparations. A special double-microscope, as is shown in Fig. 1, proved useful to us.

Jean A. de Brux, Paris, France:

Over a period of six months, the technicians acquire an approximately complete training, but still decidedly insufficient, and will still need another month to complete and consolidate the knowledge he has acquired.

Grace R. Durfee, New York, New York, USA:

It is necessary to stress the importance of a quiet and congenial atmosphere in a laboratory either partially or wholly devoted to the training of cytotechnologists. At least a day is devoted to the methods. One week is spent in the preparation and staining of specimens. Two or three hours of observing the methods of accession . . . and reporting and filing . . . is sufficient. The outline for use in the
study of cytology: Normal cytology, inflammation, infections, atypias, carcinoma in situ, carcinomas, metastatic carcinomas.

The time required for a student to become proficient in screening cytologic material from the female genital tract varies from 4 to 6 months. In an additional three months, the student will be able to do a very creditable job of screening all types of cytologic material.

The important three Cs to remember...is the necessity of constant review, constant comparison and constant characterization of smears and cell patterns.

Emmerich von Haam, Columbus, Ohio, USA:

(We are) offering a six-month approved training course in cytology, which is divided into three-month periods, one dealing with didactic cytology and then followed by on-the-job training.

Margaret E. Attwood, Birmingham, England:

In England there is not, and probably never will be, such a person as a cytotechnologist, if by this we mean a specialist trained in only this one subject.

We are quite convinced that cytological examination of smears can safely be left in the hands of trained technicians.

C. Pascal, Lyon, France:

A six-month training period appears to be a minimum. . . . Detection of cancer cells will require more experience and six months will not be enough.

Edmond Schuller, Vienna, Austria:

With no visual memory or visual talent one cannot become a cytotechnologist.

IF THERE WERE A LICENSING EXAMINATION FOR CYTOTECHNOLOGISTS, ON WHAT SHOULD THIS EXAMINATION CONSIST?

Rachel R. Achenbach, Salem, Massachusetts, USA:

I find it impossible to discuss a licensing examination in cytotechnology without . . . agreement concerning the role of the cytotechnologist.

Claud W. Taylor, Birmingham, England:

There is no rank of “Cytotechnologist.” A person carrying out this work may be employed as a student technician with no hope of progress unless he or she undertakes to train and pass examinations in other branches of hospital technology.

F.A. Langley, Manchester, England:

There is not a great demand for cytotechnologists in Great Britain and thus no real pressure can be brought on for proper recognition of this specialty.

Charlotte M. Street, New York, New York, USA:

Whether the examination is only a practical one or includes written and oral sections, it should test thoroughly the candidate’s knowledge of all applications of exfoliative cytology and not be limited to gynecological cytology.

WHAT IS THE AVERAGE CAPACITY AS TO THE NUMBER OF CASES OF CYTOLOGICAL SMEARS PER DAY A CYTOTECHNOLOGIST CAN SCREEN?

Brigitta Fredrikson, Gothenburg, Sweden:

We have found that 20 slides is the maximum amount the cytotechnologist can screen per day.

Colette Pascal, Lyon, France:

A technician can handle at least 25 or 30 slides a day including processing and screening.

Howard L. Richardson, Seattle, Washington, USA:

A trained cytotechnician can handle approximately . . . 48 to 60 slides per day.

Edmund Schuller, Vienna, Austria:

An experienced cytotechnologist is able to handle, process and screen, between 50 and 100 (smears) per day.

Jose R. Del Sol, Madrid, Spain:

The maximum number of slides that a senior cytotechnologist can properly read, in a normal work day, is around 35–40.
SHOULD THE CYTOTECHNOLOGIST BE ORGANIZED IN HIS OWN ORGANIZATION?

Colette Pascal, Lyon, France:

We believe that the cytotechnologist should be organized in his own organization. Cytology is a specialized occupation differing from other branches of instruction in which technicians are usually trained. This organization of technicians would have...the advantages of bringing recognition to the specialty and protecting their interests.

Maria S. Blanco de del Campo, Palo Alto, California, U.S.A.:

In the United States of America, two national organizations already exist, namely the Inter-Society Cytology Council and the American Society of Clinical Pathologists, of which American cytotechnologists may be part.

Ruth Gibbert, Munich, Germany:

It is obvious that the organized cytotechnologist would have a greater influence on the increase of salaries than would be possible for the individual cytotechnologist.

Pasco Ri Del Vecchio, Bethesda, Maryland, USA:

I feel that by forming their own independent organization, the cytotechnologists may jeopardize their interests and the quality of cytdiagnosis in general.

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