

freshly prepared. Urine samples seeded with sulphadimidine and its acetylated conjugate are made available for 'practice runs' during the early part of the practical class.

A bimodal distribution for the acetylation of this sulphonamide is evident from the results of the class experiment. Thus, in a group of 57 students the frequency distribution pattern was 10 (0–9% acetylation), 3 (10–19%), 4 (20–29%), 0 (30–39%), 5 (40–49%), 14 (50–59%), 11 (60–69%), 5 (70–79%), 5 (80–89%) and 0 (90–100%). Data obtained from class experiments over the past three years has indicated that even with small groups (i.e. 22 students) this bimodal distribution pattern is obtained. On the basis of these results it would appear that the good acetylators are above the 40% value whereas the poor acetylators are below this figure. If large enough numbers of students participate it may be possible to analyse the data in terms of ethnic groupings.

During the class it is also possible to examine urine

samples for the presence of free and acetylated sulphadimidine by thin layer chromatography using silica gel plates containing a fluorescent indicator (Merck F254). Control and test urines (2–3 μ l) together with the two pure sulphonamides are applied as separate spots to the plate which is then developed in benzene: acetone (3:1, v/v) for 20 minutes. Sulphadimidine and its acetylated metabolite are then detected as quenching spots (under light at 254 nm) with Rf values of 0.42 and 0.23 respectively.

References

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Films in pharmacology teaching

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Film loops and full length films, especially those in colour, are used in pharmacology courses to supplement lectures, practicals, and other audio-visual material. Selected film material may thereby increase the scope and interest of courses as well as adding variety to their content.

The film loop, lasting from 2 to 15 min, may be projected on to a conventional screen or displayed on small portable desk-top monitors, and may thus be shown to small groups or to whole classes. It is particularly useful for the demonstration of simple practical techniques, as it can be allowed to run and repeat itself until the student is familiar with the experimental technique. The use of close-up and colour enables the clear visualization of detail which may not always be possible during live demonstrations. In addition, film loops provide economies in demonstrator time and permit students to learn independently at their own rate. The production of film loops is well within the capabilities and budget of many university audio-visual departments.

The expense and time involved in making a first class full-length film puts film-making outside the scope of all but the largest organizations. However,

there are many excellent films on pharmacological topics which are available from the pharmaceutical industry and from other sources. In many cases these are not orientated towards commercial promotion, and may be hired free or at nominal cost. Such films cover many aspects of drug actions and their therapeutic uses, as well as relevant physiological and clinical topics. Obvious benefits of the use of films include the convenient access to material which would otherwise be unavailable to the student, and the juxtaposition of basic theory with experimental and clinical material. Imaginative use of animated diagrams, colour, cinemicrophotography, slow motion sequences, and other techniques, contribute to the powerful impact and teaching effectiveness of films.

The intention of this demonstration is (a) to show examples of films and film loops which illustrate some of the points discussed above, and which demonstrate the potential value of films in pharmacology teaching programmes; and (b) to provide catalogued information and basic details about film material which is now available, both from academic and commercial sources. Much of the information concerning films made by pharmaceutical companies has been obtained from a recent questionnaire (April–May 1976) which shows that many companies have a lively interest in pharmacology teaching.

I wish to acknowledge the kind co-operation of many pharmaceutical companies in providing information, and especially to those who have generously loaned films for this demonstration.