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Letter to the Editor

Fixation of Skin Biopsies

While we should like to draw attention to the helpfulness of Dr D. J. Harman's useful article on biopsies in leprosy (*Lepr. Rev.* **46**, 125), we should like also to comment on his fixation procedure, which is the one described by Wheeler (1964) and which is the source of some confusion. Although it is often refered to as Lowy's or Ridley's fixative this method does in fact differ from the one in use in our laboratory in three important respects: (1) in mixing solutions A and B at the time of the biopsy, (2) in the use of additional acetic acid (the quantity was inadvertently omitted in the article but Wheeler recommends 5%), and (3) in the much longer period of fixation. The first and last of these modifications were introduced to make the fixation procedure more convenient or reliable for use in the field, while the second is probably an attempt to compensate for the third. If these changes are helpful for field work, which is not necessarily always the case, it is proper that the procedure should be recommended for this purpose. But wherever practicable we would recommend the following simple method, which is a slight modification of the one by Lowy (1956).

Fixative:	Formaldehyde (40%)	10 ml
	Mercuric chloride	2 g
	Acetic acid, glacial	3 ml
	Distilled water to	100 ml

This solution becomes mature after about 24 h when a small amount of white precipitate settles to the bottom. It keeps for a month, perhaps longer. Procedure: Fix a skin biopsy specimen for 1½ to 2 h. The time may vary somewhat according to the size of the specimen but it should never be more than 3 h. Transfer to 70% alcohol without washing. The specimen can be left thus for as long as convenient and despatched to the laboratory.

It is well recognized that the preferences of laboratory workers sometimes differ. Nevertheless, Wheeler's procedure departs from standard histological practice in two respects. Fixatives containing formalin and acetic acid are prepared in one solution; Zenker's and Helly's fluids are prepared in two parts because they contain potassium dichromate in addition to either acetic acid or formalin, and fixation in fluids containing mercuric chloride never exceeds 3 h. We think that the method here recommended gives appreciably better results, though we do not wish to imply that Wheeler's method gives bad results, or that it may not be advantageous on occasion for use in the field. The main object of this letter is to clear up a source of confusion.

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References

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COMMENT BY DR HARMAN

Dr and Mrs Ridley are quite correct in drawing attention to the differences we have introduced in the fixation method as recommended by them, and I do apologize for not making this clear in my article. May I just state that our aim at this Centre is to provide a simple biopsy method which will give a good histopathological picture not only suitable to the pathologist for diagnosis, classification, assessment and prognosis, but also useful to the worker in the field for study and teaching purposes. The slight changes in the Ridley fixative method were introduced with this end in view, and we have found from experience that they have not affected the final result to any appreciable extent. This is extremely fortunate as we depend upon the formaldehyde–mercuric chloride–acetic acid combination to give suitably fixed tissues for leprosy purposes and also to give us satisfactory results with our staining technique.

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