

NEW APPLIANCES

Exposure Marker for Angiography

Dr. J. S. FLEMING and Mr. B. W. WATSON, from the Departments of Cardiology and Medical Electronics, St. Bartholomew's Hospital, London E.C.1, write: A knowledge of the precise timing in the cardiac cycle of each film exposure adds considerably to the diagnostic value of any angiographic study and is essential if estimations of chamber volumes are to be made. In over 100 patients investigated by angiography with the Elema Schonander biplane roll film changer a simple device has been used to mark the exposure of each film along with the recording of the electrocardiogram.

The device consists of an inexpensive silicon solar cell (International Rectifier Co. Ltd., Type No. SO 510 E8) which produces a voltage proportional to the amount of radiation it receives with a time constant of the order of a few microseconds.¹ The solar cell is fairly brittle and also responds to light. It is therefore mounted on a cardboard backing for mechanical support and covered with opaque black tape.

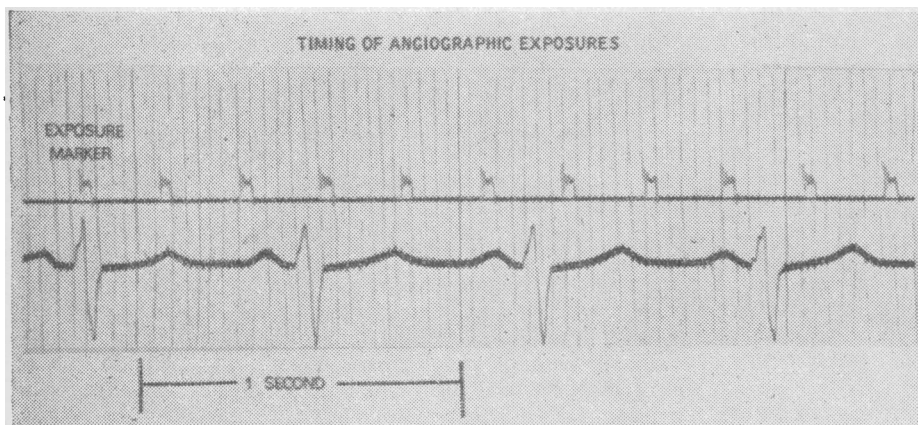
Just before angiography the probe, which is 1 by 0.5 cm. and 1 mm. in thickness, is taped to the patient's chest, preferably within the boundary of the radiograph. However,

the sensitivity of the cell is high enough to provide adequate signals from scattered beams if the positioning on the chest is inaccurate.

The voltage produced is dependent on the amount of radiation falling on the cell and the input impedance of the monitoring instrument. The output under typical conditions is approximately 1 mV into 100 ohms, but rises by more than 10 times if the input impedance of the recording instrument is increased to 500 K.

During angiography in the patient shown in the Figure the cell output was fed without amplification into a 65-ohm galvanometer of the New Electronics Products photographic recorder, but it could equally well produce a signal for one channel of any twin-channel electrocardiograph. A deflection is recorded corresponding to each film exposure, and this marks the precise timing of each film in the cardiac cycle as shown.

The solar cell has proved accurate, reliable, and simple to use, and is much to be preferred to any method using electronic relays fitted to the x-ray set, since a variable, often unknown, and frequently long delay occurs with all such systems.



The exposure maker identifies each film exposure with the place in the cardiac cycle.

REFERENCE

- ¹ Whelpton, D., and Watson, B. W., *Phys. in Med. Biol.*, 1963, 8, 33.

ANY QUESTIONS?

We publish below a selection of questions and answers of general interest.

Vitamin B₁₂ and Rheumatoid Arthritis

Q.—Is vitamin B₁₂ of use in the treatment of rheumatoid arthritis?

A.—Vitamin B₁₂ is of no use in the treatment of rheumatoid arthritis unless there is an associated megaloblastic anaemia. The usual anaemia of rheumatoid arthritis is a hypochromic anaemia associated with low serum-iron values, similar to the "anaemia of sepsis."

Violent Crying in Children

Q.—Is violent, almost hysterical, crying in an otherwise healthy child normal?

A.—It is impossible to answer this question adequately without further information, including the age of the child and the circumstances under which the crying occurs. For instance, a 2-month-old baby may have violent screaming on account of evening colic; a child may have violent screaming at night because of a nightmare; a child at any age—even in infancy—may scream because of pain (such as headache) which he is not old enough to explain. An older child may

cry almost hysterically because he is unable to make his needs known through being unable to talk because of deafness.

I would suggest that the child in question should be seen by a paediatrician in order to determine the cause of the crying.

The Pill and the E.S.R.

Q.—Does the oral contraceptive pill raise the erythrocyte sedimentation rate (E.S.R.)?

A.—Oral contraceptives—either of the combined oestrogen/progestogen type or in sequential formulation—are not known to raise the E.S.R.

Tranquillizers and Glaucoma

Q.—Do any tranquillizer drugs affect vision in glaucoma?

A.—Any drug which affects the autonomic nervous system is likely to have visual effects usually by causing alterations in the size of the pupil or in accommodation. Anticholinergic drugs may cause pupil dilatation and could precipitate an attack of angle-closure

glaucoma in a patient predisposed to this condition.

The phenothiazine derivatives may also cause blurring of vision owing to depression of autonomic activity and are contraindicated in patients with angle-closure glaucoma. A useful summary of drugs with possible ocular side-effects has recently been published.¹

REFERENCE

- ¹ Green, H., and Spencer, J., *Drugs with Possible Ocular Side-effects*, 1966. London.

Notes and Comments

Mumps and Impotence.—Dr. M. G. JACOBY (New York) writes: I read with interest the answer to this question ("Any Questions?" 28 January, p. 227) in which it was stated that the proprietary cold cures are not likely to be a cause of impotence. The proprietary cold cures usually contain antihistamines, which are known to have an atropine or antiparasymphathetic action. Sexual potency requires the parasymphathetic system to be intact.

I have seen several cases of patients taking antihistamines over a long period for atopic eczema and penicillin reactions where they have complained of decrease in sexual potency.

OUR EXPERT replies: Dr. Jacoby's comments on the long-term effect of antihistamines on sexual potency are, of course, pertinent. I had assumed that a proprietary cold cure would be used only for a relatively brief period of time, and I think it is unlikely that during such a short term the antihistamines contained in a proprietary cold cure would be likely to affect sexual potency.