A Video Box Colour Film for Home Dialysis Training

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A multiple reel colour film lasting about one hour and 45 minutes, available both with Italian and English sound track has been prepared. Each reel lasts approximately 20 minutes.

This film has been made with a view to efficient training of patients and their partners for home dialysis. By means of a sequence of clear and easily understandable pictures it shows how to carry out haemodialysis in the patient's home. Besides explaining each operation of the treatment it lays down the physiopathological principles which are necessary to understand and thus more readily accept the dialysis system and the dietary and pharmacological rules.

To comply better with its specific purpose the film was made in a room of the dimensions which might be expected in an average house or apartment.

The deioniser, the automatic monitor, the blood pump and the dialyser corresponded exactly to home dialysis equipment. The actor was a young man, well trained and experienced in haemodialysis, who personally carried out the whole operation step by step: preparation, checking, self-needling of his fistula, and starting and finishing dialysis.

In our centre, dialysis is carried out three times a week using highly efficient disposable dialysers. Blood access is via forearm subcutaneous a.v. fistula. The blood pump which the patient must be trained to set at the required rpm allows a fast blood flow (240 ml/min).

The partner, while being familiar with the treatment must only intervene in case of emergency (eg serious hypotension, heavy blood loss etc), the patient being otherwise independent.

The positive results of this system are first greater tranquillity of the patient who feels he takes care of himself and second less work for the partner, who has only to be available during dialysis.

The film explains the main physiopathological processes involved,
including the circulation of the blood, blood flow in the arterio-venous fistula, disposal of waste products through normal kidneys, their accumulation in renal insufficiency, intermittent dialysis and exchange of solutes through dialysis membranes.

Throughout the film, but especially in the introduction and the end, efforts are made to put the patient at ease and give him the confidence that he will regain his position both at home and at work. He is told that by punctilious attention to his dialysis instructions he will feel perfectly well and will be able to avoid, prevent or quickly remedy emergencies.

In the more technical section he learns how to prepare the disposable dialyser, how to connect it to the arterial and venous lines and how to introduce the arterial line into the blood pump.

The structure and operation of some other dialysers (Kii, coil, and hollow fibre types) are also shown so that the film may be used by Centres using different types of dialysers.

Details of fistula needling, starting and finishing, the return of the blood, removal of the needles and haemostasis is clearly shown.

The need for heparinisation, and intermittent and continuous heparinisation are explained; the patient is taught how to determine the clotting time and what to do if it falls below 20 minutes in the venous line.

The mechanics of automatic dialysis fluid preparation are explained as well as the meaning and checking of monitoring systems before and during each treatment.

Situations in which dialysis has to be abruptly stopped and when it is advisable to ring up the Centre to ask for the necessary technical or medical assistance are explained.

Technical accidents which may happen during treatment are simulated, including slipping out of needles, disconnection, the presence of air bubbles in lines, coagulation in the venous line and in the drip chamber, and membrane leaks with loss of blood. The film explains what has to be done in such cases to continue with dialysis.

All necessary instructions are given for the treatment of hypotension, cramp and air embolism.

Finally the patient is told that the artificial kidney cannot fully replace the functions of the natural organ and that he therefore has to follow strictly some essential dietary and therapeutic rules. He must avoid any food containing much potassium and phosphorus. The intake of water and salts must be limited to avoid a weight gain of more than 1.5 kg between dialyses, and proteins of high biological value must be eaten to balance the loss of aminoacids and peptides through dialysis membranes. The administration of iron and phosphate binders such as aluminium hydroxide, is also discussed.