

PRACTICAL POINTS.

THE HOT OPERATING THEATRE.

Mr. R. P. Rowlands, M.S. Lond., F.R.C.S. Eng., Surgeon to Guy's Hospital, in the *Lancet* of August 5th, suggested that it is unnecessary, and even harmful, to make the operating theatre hot and stuffy. He wrote further: "My experience, during many years, has convinced me that the ideal theatre should be kept at a temperature of about 65 deg. F., well ventilated, and devoid of an excess of moisture. Most operating theatres are kept at a much higher temperature, and many are so stuffy and moist that it is difficult to do the best work in them. It is, of course, known that a stuffy, moist atmosphere adds seriously to the bad and unpleasant effects of excessive heat.

EFFECT OF EXCESSIVE HEAT ON THE PATIENT.

"The theatre is chiefly for the patient, and it has become a tradition that it must be kept hot in his interest. Fresh air is feared because of the dust it may carry into the wound, and the vapour of one or more sterilisers is too often allowed to saturate the air with moisture. Are such conditions to the advantage of the patient? It is, of course, admitted that he must be kept warm so that he may not suffer unduly from shock, but this ideal is attained, in the large majority of operations, by keeping him well and warmly clothed and by carefully avoiding exposure of any part of the body except the wound, the rest being covered with dry, sterile towels which prevent unnecessary radiation, convection, and evaporation from the surface of the body. For very prolonged operations, which should be rare, it may be necessary to heat the table also, due care being taken not to burn the patient.

"When the theatre is unduly hot and stuffy my experience is that shock is more severe, and the patient perspires so freely that he and his clothing are often drenched. This great loss of liquid lowers the circulation and general vitality so that saline axillary infusions have often to be given during and after the operation to make up the deficiency. Under more normal conditions a saline enema after the operation is sufficient. Many years ago I was considerably surprised to find that collapsed patients needing urgent operations carried out in their own homes, which could not be heated to the temperature commonly prevailing in our operating theatres, did at least as well as those operated upon in the theatres. These observations made me think that we might be too infatuated with the hot theatre and led me to try reducing the temperature of my own, with great advantage to the patients.

"Again, it does not seem reasonable to move the patient from a cool ward into a theatre about 20 deg. warmer, and then back again—while he is still unconscious and suffering from shock—through cold corridors into the lower temperature. It is probable that the risk of pulmonary complications is thereby increased."

Mr. Rowlands considers that a surgeon and his

assistants cannot give their best work in such an atmosphere, and that "the headache and fatigue commonly experienced after a long day in the operating theatre are chiefly due to the heat and bad conditions and can be largely avoided by improving these conditions. It is not really necessary for the surgeon to be bathed in perspiration while he is doing his work. Moreover, some of the sweat may infect the wound."

In the issue of August 12th Dr. C. Hamilton Whiteford supports Mr. Rowlands' views and writes:—

"I have for many years run my private operating theatre on the lines advocated by Mr. R. P. Rowlands in the last issue of the *Lancet*, and can corroborate his conclusions in nearly every detail. An atmosphere which, owing to its excessive heat and moisture, reduces surgeons and nurses to the consistency of a boiled rag, cannot be other than harmful to a patient whose resisting powers have been reduced by disease or injury plus an anæsthetic. Even in recently constructed theatres it is quite common to find that steam from the sterilisers finds its way into the air of the theatre.

"The principle of applying the heat where it is required—*i.e.*, to the patient—instead of to all the contents of the theatre, has not yet met with general acceptance. A very moderate amount of external heating suffices for a patient who is placed on the table in fairly good general condition and whose vitality is not depressed during the operation by chill from exposure, severe loss of blood, trauma from rough operating, or over-anæsthetisation. For supplying the patient with heat the electrically heated table is the best. In tables heated by cans or bags of hot water, the heat lessens as the operation proceeds, and is least at the end of the operation, the very time at which the patient requires it most.

"For warming the theatre itself to a reasonable temperature, the old-fashioned radiator, still to be seen in recently built theatres, is far too much of a dust trap. The heating apparatus should be built into, and should form part of, the surface of the wall. Flat metal plates, electrically heated, answer admirably. Ventilation, in practice, resolves itself into either sucking the foul air out, its place being taken by air, more or less vitiated, from the rooms and corridors adjacent to the theatre, or diluting the foul air by driving in a continuous stream of out-door air, filtered, and if necessary warmed, the excess of air escaping from the theatre into parts of the building adjoining the theatre. The driving-in method is by far the better.

"In July, 1914, the writer was in a newly built English theatre, which was being 'ventilated' by an enormous extracting fan. The workers and the spectators found the atmosphere intolerable. Fortunately, the architect, in a moment of mental aberration, had fitted the theatre with an ordinary sash-frame window, which had to be opened to its fullest extent before the impending asphyxia could be obviated."

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