CIRCULATORY FAILURE IN THE ACUTE INFECTIONS OF CHILDREN.—CAUSES AND TREATMENT.

J. Howland in *Archiv. of Ped.*, May, 1910, deals with a review of the opinions as to the cause of circulatory failure occurring in infectious processes in children, of the experimental work that has been done in the effort to explain its production and a consideration of those measures and drugs that theoretically would seem to be experimental have proved to be of value.

The paper is extraordinary interesting and the review of the work of the author has been extremely well done.

Three explanations as to the causation of circulatory failure have been advanced. First, that the anatomically diseased heart is responsible. Secondly, that functional disability arises as a result of the action of toxins with or without anatomical changes. Thirdly, that a paralysis of the vessels from central incisions is the cause, the heart being exonnerated chiefly or entirely.

Krehl states that the fat content of the heart muscle bears no relationship to its capacity for work. Others have proved that a heart degenerated by phosporous, even to the most extreme degree, was able to respond to tests almost as well as a normal heart. Thus, it is evident that the heart has an enormous factor of safety, and that in the cases here considered, heart failure can scarcely be responsible for the condition.

Details of the experiments of Romburg and Passler, and of Bassler and Rolly are then given. These experiments have been universally accepted as proving that the paralysis of the vasomoter center is the chief cause of death in the circulatory collapse due to acute infections, due to dyphtheria bacillus, neumococcus and pyocaneneous organisms.

The experiments of Raczynski and Heineke conducted in investigating the cause of death in rabbits suffering from perforation peritonitis. They proved that the cause of death is a paralysis of the centres in the medulla. Primarily the vasomotor center and secondly the respiratory. The circulation shows striking symptoms earlier, but respiration ceases first; the paralysis of the vasomoter center is the cause of the circulatory symptoms, the heart is comparatively unaffected.

Speaking of the clinical symptoms in the case of children the author states that circulatory failure comes on rapidly or slowly, but when fully developed it causes pallor, cold extremities, rapid soft pulse, or its almost complete absence, with a heart whose sounds are usually clear, endeavoring by its over activity to compensate for the emptyness of the arterial symptoms.