

THE BREAKING STRAIN OF THE UMBILICAL CORD.

—Dr. Neville in a paper read before the Academy of Medicine in Ireland (Medical Press and Circular) give the result of 125 experiments performed by him with a view to ascertaining the amount of traction the funis would bear:

In 100 cords from which the blood had been allowed in great part to escape before subjecting them to strain, the average tensile strength amounted to 12.5 lbs.; one cord bore a strain of 27 lbs.; nine cords a strain varying from 20 to 25 lbs.; eighteen of from 15 to 20 lbs.; forty-eight of from 10 to 15 lbs.; twenty-three of from 5 to 10 lbs.; and one of less than 5 lbs. In the case of 25 cords tested without allowing any escape of the blood contained in them, the average breaking strain was found to be very little over 11 lbs., or nearly one and a half pounds less than in the other case. The cords belonging to male were found to have an average strength of 1.5 more than those of female children; multiparity made no appreciable difference in strength. The strain was always gradually increased until the cord broke; and rupture was most commonly found to be first marked on the outer aspect of the cord where an umbilical vein projected in a varicose manner. Thin, straight, and wiry cords, possessing a comparatively small amount of Whartonian jelly, and whose surfaces were least marked by varicose projections, habitually bore the greatest strains. The rather scanty literature on the subject was summarized; especially a paper by Pfannkuch (A. f. G. Band. VII., Heft. 1), who studied the effects of a sudden strain caused by the falling of the child's body, if delivered when the woman was in the upright position. Dr. Neville considered the question of a gradual drag as affecting inversion of the uterus. Assuming as conditions a strong funis abutting at or near the centre of the fundus on a firmly adherent placenta, and a flaccid pliable uterus wanting in contraction and retraction, he thought improper tractions on the cord very likely to terminate in inversion. Inversion is a rare accident, because these conditions are rarely met with in combination, and because real fundal attachment of the placenta is particularly uncommon, notwithstanding text-book statements to the contrary.