

MEDICINE

Cramped Before Birth

Dislocation of hip, club foot, and other deformities can be traced to cramped positions of the baby in the womb. Some of these abnormalities can be corrected.

► WHEN A BABY is born with deformities such as clubbed-feet, dislocated hip or back-knee, it may be due to the position he had to take in his rather cramped quarters before birth, Dr. Charles Chapple of Children's Hospital, Philadelphia, told delegates to the Fifth International Congress of Pediatricians in New York.

The so-called congenital dislocation of the hip, he declared, is not really a dislocation, although hips can be dislocated before birth. The one called congenital, Dr. Chapple stated, is really only a persistence of the cartilage state of the hip of the unborn baby. It has not ossified, or become bony, enough to support muscle pull and weight bearing. The condition is due to relaxation of the hip joint capsule to the point where it does not provide enough pressure stimulus for the conversion of cartilage to bone.

Although the baby's mother may not notice the condition, the doctor can diagnose it, usually after the first week when the initial relaxation period has disappeared. Pinning the diaper to the sheet to keep the leg and hip in proper position, called abduction, or a simple abduction splint will let the bone form very rapidly. If the condition is recognized and treated before the baby is three months or at most five months old he has a good chance to walk normally and early.

Before the baby is born, his body

movements are restricted by his close quarters within the womb. He cannot stretch his arms and legs and has to adapt to whatever position he is in as the womb wall encroaches on him. He does this by relaxing his joint capsules. Often an arm or leg is trapped.

After the baby is born, he still prefers the position to which he has become accustomed, uncomfortable as it may appear. This is true even when his arms are locked under his legs or the legs themselves are extended beside the face. Sometimes a joint has had to be dislocated for the baby to adapt to the available space in the womb. When this has happened, the baby is happier in that posture than after the dislocated arm or leg has been placed in its proper position.

This preference of the newborn baby for his position before birth, however contorted, is so obvious that Dr. Chapple calls these contortions "positions of comfort." Newborn babies will almost invariably fall asleep in them.

Maneuvering newborn babies into their "positions of comfort" as a routine examination position shows the probable mechanisms involved in deformities such as clubbed-feet, back-knee and abnormally short under jaw. It also explains otherwise unexplained stiffness of certain joints, since joints stretched before birth seem to become less elastic than normal for at least a few months after birth.

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CIVIL ENGINEERING

Dams for Domestic Needs

► CONTROL and utilization of water in arid and semi-arid regions must adhere to the principle that the highest use should be for domestic consumption and the growing of crops, the American Society of Civil Engineers was told at Duluth, Minn., by Col. W. W. Wanmaker of the Army Engineer Office, Garrison, N. D.

The army officer described the newly undertaken Garrison Dam project on

the Missouri river. The giant reservoir made by the dam will extend a distance of 200 miles upstream. The project is designed to adhere to the above principle. Its primary purpose is to capture spring floods, and release the water later for irrigation, also for navigation, power and stream sanitation. The use for power and navigation would be secondary.

The dam to be built will be the

world's largest rolled-earth-fill structure, containing about four times the material in the Denison Dam on the Red river between Oklahoma and Texas. This is the world's largest dam of this type at the present time, he stated.

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River Water Diversion

Diversion of water from one river to another was described at the same meeting as working like a blood transfusion into an ailing person by M. W. Torkelson of the Wisconsin Planning Board, Madison. In particular he described plans for taking water from the Wisconsin river to the Fox river for a period of about 120 days each year.

The Wisconsin river flows generally southward through central Wisconsin until it makes a westward turn and empties into the Mississippi. The Fox, to its east, finally empties into Lake Michigan. Its lower section is highly industrialized with factories that use great quantities of water. The plan is to supply the water needs of these factories during low-water seasons.

Under the scheme some 1,500 cubic feet per second of water would be diverted when needed. It would not be entirely lost to the Mississippi, however. It would make up in part for the water now drained from Lake Michigan to the Mississippi by the Chicago Drainage canal and the Illinois river. This shipping canal to the Mississippi takes from Lake Michigan about 1,500 cubic feet of water per second every day of the year.

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ENGINEERING

Diesel-Electric Cooling

► AN IMPROVED cooling system for diesel-electric locomotives is the subject of U. S. patent 2,423,929, issued to T. B. Dilworth of Hinsdale, Ill., and M. M. Schalla of Oak Lawn, Ill. They have assigned their rights to the General Motors Corp.

Air is admitted through shuttered louvers on the sides of the locomotive, passes the cooling radiators, and is vented through a short stack at the top by means of a blower. Thermostatic controls open the shutters as the machinery heats up, close them again as it cools off.

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