

MEDICINE

Rate Pain in Childbirth

A new method, called dolorimetry, measures painfulness by comparing the spontaneous pain with that induced on the person's skin by heat rays.

► HOW painless is the so-called "natural" method of childbirth? Is the woman who screams, groans and cries having more real pain than the one who sweats out her labor in comparative silence? Do the pains actually become more intense as labor goes on, or does the mother feel worse because she is getting tired, anxious and sometimes angry or hostile?

Answers to these and other questions on childbirth pain and methods for relieving it are coming from a new technic developed by Dr. James D. Hardy and associates of the Russell Sage Institute of Pathology, the New York Hospital and Cornell University Medical College.

First a laboratory method of measuring painfulness, called dolorimetry, was worked out. Now Dr. Hardy with Dr. Carl T. Javert has applied it to the study of childbirth pain in 13 normal young women. This is the first application of the method to clinical problems, such as pain in childbirth or pain in various diseases.

The method of measuring painfulness, dolorimetry, consists essentially in comparing the intensity of a spontaneous pain, such as labor pain, with that induced on the person's skin by heat rays. The painfulness is measured in units called "dols." Both words, dolorimetry and a dol, come from the Latin word for pain, dolor.

The top of the dol scale is reached at about 10 and one-half dols. At this point increasing the intensity of the heat rays can cause no further increase in pain that a person can perceive, or notice. One dol is about one-tenth of this maximal pain intensity.

The heat that produces nine dols of pain may be great enough to cause second degree burns. The bottom of the scale is the amount of heat stimulus that causes a just perceptible "prick."

In the studies of the 13 women in labor, the heat stimulus was given to the back of the hand for three seconds immediately following a contraction, or labor pain. The woman then reported whether the pain on her hand was more or less intense than that of the uterine contraction. If it was more intense, the heat stimulus was decreased and another test made. If the first heat stimulus pain was less intense than the labor pain, the heat stimulus was increased for a second test. By this bracketing method, it was possible to find quickly the stimulus which was of about the same intensity as the labor pain, or contraction.

During the first quarter of the first stage of labor the few measurements made showed the pains to be of mild intensity averaging

not more than two dols. In the second quarter of the first stage the pain was moderate, averaging between three and five dols. During the third quarter the pain averaged between five and seven dols. This, the doctors state, is "a severe pain." At this point most patients asked for relief. Whenever the patient asked for something to relieve the pain it was given to her and the pain studies were stopped.

In the last quarter of the first stage, pain was between seven and 10 dols.

The second stage of labor was characterized by the most severe pains, 10 and one-half dols accompanying the "bearing down." After delivery the pains in the fourth stage were again of mild intensity. Measurements were made on two patients in the second stage and two in the fourth. None were made in the third stage during which the baby was delivered.

The findings in the study bear out the impressions doctors have had regarding the psychological factors affecting the behavior of patients in labor, Drs. Hardy and Javert state in their report to the *JOURNAL OF CLINICAL INVESTIGATION*. (Jan.)

One patient cried and complained with vigor from the start, though her pain measurements indicated only two to four dols. Another patient gave little evidence of her pain. But she had had children before and her labor was short. This may have accounted for her restraint in the face of pains measured at eight to 10 dols. She showed less signs of pain at eight dols than other patients with longer labors at four dols.

The 13 women in the study volunteered readily, either out of curiosity or because of a desire to be of service. All of them were ready to stand any reasonable discomfort if it would help ease the suffering of future patients. Of the 13, nine were private patients with a definite interest in the investigation because they were former nurses or wives of physicians or professional men.

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AERONAUTICS

B-50 Bomber Is Flown Non-Stop Around World

► "LUCKY Lady II," the Air Force B-50 bomber which was flown non-stop around the world in 94 hours, might have gone around more than eight times, if it had merely equalled the endurance record for non-stop flight.

The endurance record was set in 1935 by Fred and Al Key, in a much less imposing craft than the new B-50. Instead of going around the world, the Key brothers set



AROUND THE WORLD IN 94 HOURS—"Lucky Lady II", the Boeing B-50 (lower) is shown being refueled in flight by the B-29 during training mission over Arizona prior to the round-the-world non-stop flight which ended March 2 after 94 hours of continuous flying.