

the number and gross abnormalities in ten percent.

Conversely, the cardiologists found 1257 abnormal records whereas the computer read 43 of them as normal, including five with infarction and three with left ventricular hypertrophy.

Where there was disagreement between cardiologists and the computer the machine or inadequate programming accounted for 95 percent of cases; in the remaining 5 percent the cardiologists were responsible for inaccurate measuring of intervals, axis, voltage.

Concluded the investigators: computer interpretation of ECGs to replace the cardiologists interpretation is still some years away.⁶

Respiratory Distress Syndrome

The principal killer of premature infants is the respiratory distress

lipid material, a pulmonary surfactant that normally keeps lungs from collapsing at every expiration. In a baby with inadequate surfactant, every breath is like the first breath of life and the lungs must be re-expanded at each breath.

There are two chemical pathways in forming the surfactant: until about the 35th week of gestation it is produced by a methylation reaction, a reaction easily damaged by acidosis or hypothermia, syndrome (hyaline membrane disease) and it is now possible to predict and treat many of the cases.

Dr. Louis Gluck of San Diego has shown that the cause of the syndrome is a lack of a phospho-two common problems in premature babies; after the 35 weeks a more stable choline pathway begins. Lung maturity can be determined by relative concentrations of lecithin from the choline reaction

and another phospholipid, sphingomyelin.

Using thin-layer chromatograms, this analysis can be done in 90 minutes: before the lungs are mature, sphingomyelin concentration is greater than lecithin. Infants with mature lungs show, in the amniotic fluid or tracheal aspirates, more lecithin than sphingomyelin.

If the infant must be delivered before he has mature lungs, treatment should be based on maintaining adequate ventilation, including mechanical respirators, until enough pulmonary surfactant develops.⁷

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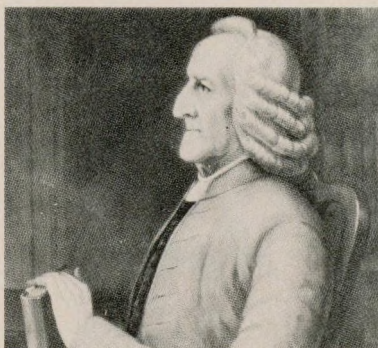
MD REMEMBERS: A Colonial Physician

Dr. John Redman who was born in Philadelphia 250 years ago* is said to have exerted a greater influence on the practice of medicine in the American colonies than any physician of his day. He was the preceptor of the founders of the University of Pennsylvania Medical School, Drs. John Morgan and William Shippen, the teacher of the famous anatomist Casper Wistar, and Dr. Benjamin Rush was his student for six years. Dr. Redman served as consultant to the Pennsylvania Hospital, helped to establish the College of Physicians and was its first president.

A graduate of the Reverend Tennent's Academy at Neshaminy, Redman was apprenticed to Dr. John Kearsley, Sr., a morose and churlish practitioner whose pupils were required to work as coachmen, messenger boys, prescription clerks, nurses and assistant surgeons. After completing his preceptorship Redman practiced in Bermuda for a few years and then set out to continue his education abroad. He studied under Alexander Monro primus in Edinburgh, then transferred to Leyden where

* February 27, 1722.

he defended a thesis on *De abortu* and received his M.D. in 1845; he did postgraduate work in Paris and Guy's Hospital in London.



When Dr. Redman returned to Philadelphia he was a skilled surgeon and midwife but he was soon in such demand that he limited his practice to medicine. In 1756 there was a serious smallpox outbreak in the city and since variolation was widely debated he later published "A Defense of Inoculation." He also wrote an account of the yellow fever epidemic of 1762 which began after a very hot summer. On entering a sick room Dr. Redman would bathe his hands and rub his face with vinegar, chew a quid of

tobacco to prevent swallowing his saliva and with these precautions he "went fearless tho' not thoughtless wherever called."

On the theory that Americans needed stronger treatment than their British cousins he prescribed heroic doses of purgatives followed by sustaining wines, cordials, barley gruel. He was noted for his cheerful talk and a bedside manner so comforting that one patient claimed that death had nothing terrible in it when Dr. Redman spoke to her about it. Commented Dr. S. Weir Mitchell: "One would like to possess the secret of this anesthetic kindness."

At 40 Dr. Redman suffered a liver abscess that ruptured intrathoracically but he survived and after he had eventually retired from practice he was seen almost daily riding a short, fat black switch-tailed horse. Dressed in a broad-skirted coat, Steuben military boots, and a cocked hat, he frequently had to lift a corner of his powdered wig to hear better.

On March 18, 1808, while lighting the candles for tea at his grandson's house, Dr. Redman staggered, had a stroke and died the next day.