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## Prospective and retrospective examination of an easily applicable score to predict the probability of premature birth defined by weight

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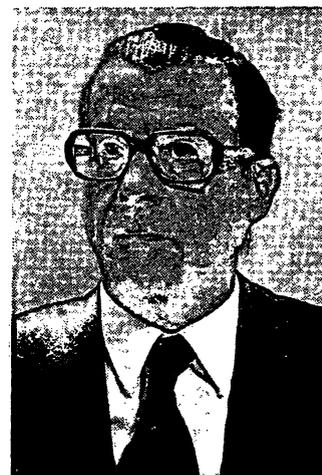
In the past it has been recognized that a great number of circumstances and events before and during pregnancy are significantly correlated with prematurity (defined by weight). These circumstances and events can therefore be designated as etiological factors. Since the frequency, i.e. the risk of prematurity increases with the number of etiological factors operating during pregnancy [1] elimination of some factors by preventive measures should decrease the risk even in the presence of others that cannot be prevented. To do so it is necessary to identify high risk pregnancies in time. For this purpose two scores have been developed grouping detectable etiological factors according to their estimated importance [2, 3]. If a certain total risk is exceeded in a pregnancy special care will be required.

Later, it was shown [4] on the basis of a study of a large enough series of consecutive newborns with birth weights below 2501 g and unselected newborns with birth weights above 3000 g as control that one can calculate for any etiological factor:

1. The significance of the factor as the percentage of prematures in pregnancies complicated by the factor, i.e. the probability of an underweight birth in those pregnancies.
2. The expense of prevention defined by the average frequency of such complicated pregnancies.
3. The practical importance of the factor as part of the total prematurity rate theoretically preventable by elimination (or compensation) of the factor.

### Curriculum vitae

OTTO THALHAMMER was born 1922 in Carinthia, Austria, studied in Vienna and obtained his MD there 1947. Working at University Childrens' Hospital Vienna he became docent 1957 and Assistant Professor 1963. Now he is head of the Dept. of Neonatology at Univ. Childrens' Hospital Vienna. His main scientific interest is in prenatal diseases and congenital disorders (books on toxoplasmosis and prenatal diseases in man; 200 papers). Since 1966 he is also directing the Austrian Screening program for inborn errors.



By evaluating these three important parameters for each of 41 etiological factors and factor combinations a simple, easily applicable score was created to predict the risk of prematurity early enough during pregnancy for preventive measures to be taken. In this score the accumulated probability of underweight birth due to different factors represents the total risk (Possibly because this is not a probability in the mathematical sense one should speak about risk points). Preliminary results of a retrospective examination applying the score at the time of delivery have demonstrated a good separation of pregnancies resulting in newborns below 2501 g and above 3000 g assuming that an