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**Évolution temporelle de la créatine totale durant la croissance et la
régénération des muscles striés.**

Translation from French.

Time course of total creatine during growth and regeneration of striated muscle.

The muscle (gastrocnemius or soleus of rat) minced and grafted orthotopically regenerates in a few days to a few weeks. This regeneration has many characteristics in common with embryogenesis (of which it reflects the histological phases) and postnatal growth, to the point that one can wonder whether the regeneration of the minced muscle does not merely summarize the ante- and postnatal growth. The answer can only be obtained by detailed comparisons of many parameters. To begin, we chose to measure the kinetics of the appearance of the concentration in total creatine C_T . This, being the sum of creatine and phosphorylcreatine, evaluates the maximum amount of energy that can be rapidly mobilized via Lohmann's reaction (involving CPK) for contraction, reduced to one unit weight. It is therefore an intensive magnitude.

C_T increases in proportion to the square root of time since birth (gastrocnemius and rat soleus ranging from 1 to 120 days, $n = 96$) or from the onset of regeneration (1 to 240 days, $n = 60$). The relative velocities of the increase in C_T , $d \ln C_T / dt$, are therefore identical. However, since the coefficients of proportionality are different, the absolute growth rates, dC_T / dt , are approximately 2.4 (soleus) or 3.9 (gastrocnemius) times slower in regenerating muscle than in -growing muscle at constant time, or 15.2 (Gastrocnemius) and 5.6 (soleus) times slower at constant C_T .