

Zeisel, SH. Nutritional importance of choline for brain development. *JACN* 2004; 23: 621S-626S.

Choline is a dietary component essential for normal function of all cells. In 1998 the National Academy of Sciences, USA, issued a report identifying choline as a required nutrient for humans and recommended daily intake amounts. In ongoing studies we are finding that men have a higher requirement than do postmenopausal women, who in turn need more than premenopausal women. Pregnancy and lactation are periods when maternal reserves of choline are depleted. At the same time, the availability of choline for normal development of brain is critical. When rat pups received choline supplements (*in utero* or during the second week of life), their brain function is changed, resulting in lifelong memory enhancement. This change in memory function appears to be due to changes in the development of the memory center (hippocampus) in brain. These changes are so important that investigators can pick out the groups of animals whose mothers had extra choline even when these animals are elderly. Thus, memory function in the aged is, in part, determined by what mother ate. Foods highest in total choline concentrations per 100g were beef liver (418 mg), chicken liver (290 mg), and eggs (251 mg). We suggest that choline-rich foods are an important component of the diet and that especially during pregnancy it would be prudent to include them as part of a healthy diet.