INTRODUCTION

At the time of birth, the kidney must assume the task of primary regulation of body fluid and electrolyte composition as well as responsibility for the excretion of a variety of potentially toxic substances. In the term neonate, renal performance is generally quite adequate and limitations of function sometimes leading to overt failure usually are related to a severe asphyxial episode, an intrinsic abnormality or an obstruction to urine flow. Renal dysfunction is also common in preterm infants, but in this group, variations in environmental conditions and/or fluid volume and composition that exceed the functional limitations of the developing kidney are more likely to be an issue. (Rahman, et al., 1981 and Anand, et al.,1982).

The newborn infant in general and the preterm infant in particular have been considered to have significant limitations of renal function when adult standards are used as a reference point. (Spitzer, 1978). Although the differences between adult and neonatal renal

function have received a great deal of attention, it should be noted that the newborn kidney is very successful at performing various tasks, such as ensuring positive water and electrolyte balance, which are absolutely vital for new tissue growth in the developing infant. Furthermore, it now appears that many of the observed differences in renal function between term and preterm infants can be related to problems associated with experimental design (Edelman,1978). or to fundamental extrarenal physiologic differences between these infants that have an important influence on renal function.