

## Mike Hat: Coloured-Tape-in-Hat as a Head Circumference Measuring Instrument for Early Detection of Hydrocephalus in an Infant

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**Abstract :** Every year, children develop hydrocephalus during the first year of life. If it is not treated, hydrocephalus can lead to brain damage, a loss in mental and physical abilities, and even death. To be treated, first, we have to do a proper diagnosis using some examinations especially to detect hydrocephalus earlier. One of the examination that could be done is using a head circumference measurement. Increased head circumference is a first and main sign of hydrocephalus, especially in infant (0-1 year age). Head circumference is a measurement of a child's head largest area. In this measurement, we want to get the distance from above the eyebrows and ears and around the back of the head using a measurement tape. If the head circumference of an infant is larger than normal, this infant might potentially suffer hydrocephalus. If early diagnosis and timely treatment of hydrocephalus could be done most children can recover successfully. There are some problems with early detection of hydrocephalus using regular tape for head circumference measurement. One of the problem is the infant's comfort. We need to make the infant feel comfort along the head circumference measurement to get a proper result of the examination. For that, we can use a helpful stuff, like a hat. This paper is aimed to describe the possibility of using a head circumference measuring instrument for early detection of hydrocephalus in an infant with a mike hat, coloured-tape-in-hat. In the first life, infants' head size is about 35 centimeters. First three months after that infants will gain 2 centimeters each month. The second three months, infant's head circumference will increase 1 cm each month. And for the six months later, the rate is 0.5 cm per month, and end up with an average of 47 centimeters. This formula is compared to the WHO's head circumference growth chart. The shape of this tape-in-hat is alike an upper arm measurement. This tape-in-hat diameter is about 47 centimeters. It contains twelve different colours range by age. If it is out of the normal colour, the infant potentially suffers hydrocephalus. This examination should be done monthly. If in two times of measurement there still in the same range abnormal of head circumference, or a rapid growth of the head circumference size, the infant should be referred to a pediatrician. There are the pink hat for girls and blue hat for boys. Based on this paper, we know that this measurement can be used to help early detection of hydrocephalus in an infant.

**Keywords :** head circumference, hydrocephalus, infant, mike hat

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