M.E.W.S: What is It and Why Use It?

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WHAT IS M.E.W.S?

From the moment when I began my nursing career as a new grad on a neuro/med surg unit, and later when I worked in an Intermediate Care Unit as a traveler, and even today, I have observed that there are times when nurses feel uneasy about a patient, but are hesitant to trigger a rapid response. It may be difficult to know for sure how to tell that a patient's condition warrants such a call. I have also observed that there are many times when a rapid response is called too early and have seen other times when the call has been too late to prevent significant patient events. There are also those times when the rapid response call is appropriate, but is based solely on a physician decision. When I was a new graduate I met a wonderful nurse, Bonita, who was the ANP/CNS for our floor. We have been longtime friends and I consider her my mentor. Last year she shared some information about M.E.W.S. – Modified Early Warning Score – a tool which was designed to assist a practitioner, whether nurse or physician , in predicting which patients merited a rapid response call. I started to read about the program. It was primarily being used in Europe at that time, but it seemed to me that the M.E.W.S. tool could make the rapid response more efficient here, as well, and could empower our nurses to make decisions before the patient becomes critical enough to require intensive care. I enjoy sharing ideas and presenting at conferences so I submitted an abstract and was able to present the M.E.W.S. concept at the AANN (American Association of Neuroscience Nurses) conference in 2009.

MY ABSTRACT

Currently, assessments made prior to transport are subjective, may vary according to the accompanying personnel, and cater to that of the physician. Modified early warning score (M.E.W.S.) is a simple quantitative physiological scoring system suitable for bedside application that does not require complex or expensive equipment. The score gives a reproducible measure of how "at risk" a patient truly is, and is calculated using five variables: systolic blood pressure, pulse rate, respiratory rate, temperature and AVPU score (alert, verbal stimuli reaction, pain reaction, and unresponsiveness, Lee, et al 2007).The M.E.W.S. has been validated for use in both surgical and medical wards.

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The idea is that any small changes in these five parameters will be seen earlier using M.E.W.S., rather than waiting for obvious changes in individual parameters, such as marked drop in systolic blood pressure which is often a pre-terminal event. Of all the parameters, respiratory rate is the most important, but often the least recorded. It is the most important parameter because respiratory rate is thought to be the most sensitive indicator of a patient's physiological well being, which is logical because respiratory rate not only reflects respiratory function, as in hypoxia or hypercapnia, but cardiovascular status, as in pulmonary edema, and metabolic imbalance such as that seen in DKA (Rees, 2003).

WHY NOT RAPID RESPONSE ALONE?

Currently, most Rapid Response Teams in the USA are triggered by one parameter at a time, or a general gut-feeling from the nurse. That parameter often represents a significant change in a particular vital sign. For example a significant change in blood pressure might trigger a call to the RRT. Even though a single parameter approach has been effective, what if institutions could identify at-risk patients even BEFORE a significant vital sign change? What if a system were created that could respond to multiple parameters at the same time and identify at risk patients at the first sign of a subtle change in vital signs? When used in conjunction with Rapid Response, the M.E.W.S. allows the nurse to make the call to

RRT in a timely manner and allow for early intervention.

WHY use M.E.W.S?

M.EW.S. scoring can be used at any time during a patients hospital stay. We know that a patient who is being transported, has great potential for instability and that the transport can be risky, whether unit to unit or inter-facility. Inter-facility transport has increased dramatically as patients are moved to where they can receive the highest levels of care, making this a time of potential problems. Assessments made prior to transport have been subjective, and often vary with personnel. The M.EW.S. system gives an assessment with **great inter-rater reliability**. The M.EW.S. was developed because not all patients can be monitored in ICU units. It allows worsening patients to be identified before physiological deterioration has become too profound. Once an ill patient has been identified through a M.EW.S. score of 3 or more, this should then stimulate a call to a rapid response team or physician. The result of this review should be alteration in plan of care to ensure no further decline. When used properly, M.EW.S. can help reduce morbidity and mortality as well as lessen emergency ICU admissions. M.EW.S. can be used in all non ICU units to ensure that patients receive early intervention and transfer to an appropriate level of care. A research study to trial M.EW.S. and determine the efficacy at UCSD will be starting in 5IMU and Burn Special Care.

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Score	3	2	1	0	1	2	3
PULSE		<40	41-50	51-100	101-110	111-129	>130
RR		<8		9-14	15-20	21-29	>30
TEMP		<35.0		35.1-37.2	37.3-37.9	>38	
CNS		confused		Alert	Responds to voice	Responds to pain	unresponsive
SBP	<70	71-80	81-100	101-199		>200