

The Medical Algorithms Project

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A wealth of medical information exists in the form of published algorithms. These algorithms range from simple calculations to complex outcome predictions. Most clinicians use only a small subset routinely. The barriers to their use include the lack of knowledge that they exist, uncertainty about their boundaries, difficulty in converting to the units expressed in the algorithm, and lack of availability at the point of care. Algorithms would be more widely used if they were readily available in a practical format to clinicians, educators and researchers. The Medical Algorithms Project is an effort to create software implementations of useful healthcare algorithms, include documentation and references, and make both easily available to all interested. The algorithms here have been collected from the peer-reviewed biomedical literature, including research journals and textbooks.

The use of medical algorithms can enhance clinical judgment and favorably influence patient outcome. Computerized algorithms can provide timely clinical decision support, improve adherence to evidence-based guidelines, and be a resource for education and research. Medical errors can be reduced by the sharing of medical information and the correct application of medical information. A wealth of medical information exists in the form of published medical algorithms. These algorithms represent a summary of medical research ranging from simple calculations such as Body-Mass Index to complex outcome predictions. Application of such algorithms can generate information crucial to the clinical process. Automation of medical algorithms can serve to both share the medical information as well as assist in the correct application of that information.

A Medical Algorithm is any computation, formula, survey, or look-up table, useful in healthcare. Despite the large number of algorithms and calculations present in the literature, many are not widely used or are underutilized. Some barriers to utilization are the following:

- inaccuracies in formulas or data due to transcription errors
- misunderstandings concerning appropriate units for data or results
- confusion over representation of percentages
- influence of extremes in age
- need to adjust for extremes in body weight or body surface area
- expression of findings without a reference range or methodology, making transfer

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results between institutions difficult

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