

BLOOD CELL MORPHOLOGY

Grading Guide



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Grading Guide

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Preface

Manual differential leukocyte count, commonly referred to as "manual diff," is one of the common hematology tests performed in clinical laboratories. It generally includes a 100-cell differential and evaluation of blood cell morphology—it also serves as verification of automated CBC results. The morphologic abnormalities of blood cells may be simply reported as present, or graded as either slight, moderate or marked (ie, 1+ through 4+). Grading blood cell morphology, when performed appropriately and in a consistent manner, contributes to the process of arriving at a diagnosis, at least in some cases. Appropriate and consistent grading requires a systematic approach, objective and/or subjective, that must be adhered to by laboratory professionals in their daily work of reading blood smears. Objective approaches that have been advocated up until now are helpful but are, somehow, not widely utilized by laboratory professionals. In an attempt to make the process of grading blood cell morphology more practical for laboratory professionals, and more meaningful from patient management standpoint, the author has prepared this grading guide utilizing photomicrographs of the relative differences among various grades of individual abnormalities in addition to describing the corresponding objective (quantitative or semiquantitative) differences. If it is true that "a picture is worth a thousand words," then *Blood Cell Morphology: Grading Guide* should be useful to laboratory professionals engaged in reading blood smears.

This reference guide to grading blood cell morphology, is divided into four sections. General considerations of grading blood cell morphology are introduced in Section I. Specifics of grading individual red cell abnormalities are defined in Section II. Grading white cell abnormalities is described in Section III and platelet morphology grading is charted in Section IV. In each section, each grading level (1+ to 4+) of individual abnormalities is illustrated by a photomicrograph taken at 1000x magnification, unless indicated otherwise, from a Wright or Wright-Giemsa stained blood smear.

I hope that students, teachers, and practitioners of clinical laboratory hematology will find this guide very helpful in grading blood cells morphology in a systematic and consistent manner.

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