



Graff's Textbook of Urinalysis and Body Fluids

THIRD EDITION

Lillian A. Mundt Kristy Shanahan



ACCESS
CODE
INSIDE

NAVIGATE 2
COMPANION WEBSITE



Contents

Contributor	vii
Reviewers	vii
Preface	ix
Content Highlights	xi
About the Authors	xiii
Acknowledgments	xv
List of Figures	xvii
List of Tables	xxix

SECTION I **Foundational Information**

CHAPTER 1	Urinary System Anatomy and Physiology and Urine Formation	2
CHAPTER 2	Renal and Urinary Tract Diseases and Related Urinalysis Findings	18
CHAPTER 3	Metabolic Diseases and Related Urinalysis Findings	34
CHAPTER 4	Urinalysis Clinical Laboratory Operations	44
CHAPTER 5	Microscopy	55

SECTION II **The Urinalysis**

CHAPTER 6	Collection and Preservation of Urine	72
CHAPTER 7	Physical Examination of Urine	79
CHAPTER 8	Chemical Analysis of Urine	89
CHAPTER 9	Microscopic Examination of Urinary Sediment	111
CHAPTER 10	Atlas of Urinary Sediment	142

SECTION III **Body Fluids Analysis**

CHAPTER 11	Introduction to Body Fluids	178
CHAPTER 12	Cerebrospinal Fluid	184
CHAPTER 13	Serous Body Fluids	199
CHAPTER 14	Synovial Fluid	211
CHAPTER 15	Gastric Fluid and Fecal Analysis	221
CHAPTER 16	Semen Analysis	231
CHAPTER 17	Amniotic Fluid	246
CHAPTER 18	Vaginal Secretions	254
CHAPTER 19	Miscellaneous Urine and Body Fluid Tests	263
CHAPTER 20	Automation of Urinalysis and Body Fluids Examination	271

APPENDICIES

Appendix A	Answers to Study Guide Questions and Case Studies	281
Appendix B	Reagent Strip Color Chart	289
Appendix C	Hemocytometer Cell Counts	291
Appendix D	Historically Relevant Urine and Body Fluid Analysis Information	295
	Glossary	303
	Index	313