CHAPTER 4
Addictive Behavior and Treating Drug Dependence 90

Introduction 92

The Origin and Nature of Addiction 92
Defining Addiction 92
Models of Addiction 93
Factors Contributing to Addiction 94

The Vicious Cycle of Addiction 96
Nondrug Addictions? 96

Treatment of Addiction 97

Drug Addiction Treatment in the United States 100
Alcoholics Anonymous 100
Rehabilitation Facilities 102
Detoxification Units 102
Therapeutic Communities 103
Outpatient Treatment 103
Current Trends in Providing Treatment Services 105

CHAPTER 5
Homeostatic Systems and Drugs 112

Introduction 114

1: Overview of Homeostasis and Drug Actions 114

Introduction to Nervous Systems 114

2: Comprehensive Explanation of Homeostatic Systems 116

The Building Blocks of the Nervous System 116
The Neuron: The Basic Structural Unit of the Nervous System 116
The Nature of Drug Receptors 118
Agonistic and Antagonistic Effects on Drug Receptors 119
Neurotransmitters: The Messengers 119

Major Divisions of the Nervous System 123
The Central Nervous System 123

The Autonomic Nervous System 124

The Endocrine System and Drugs 126
Endocrine Glands and Regulation 126
The Abuse of Hormones: Anabolic Steroids 128

Conclusion 128

CHAPTER 6
How and Why Drugs Work 132

Introduction 134

The Intended and Unintended Effects of Drugs 134

The Dose-Response Relationship of Therapeutics and Toxicity 136
Margin of Safety 136
Potency versus Toxicity 137

Drug Interaction 137
Additive Effects 138
Antagonistic (Inhibitory) Effects 138
Potentiative (Synergistic) Effects 138
Dealing with Drug Interactions 139

Pharmacokinetic Factors That Influence Drug Effects 140
Forms and Methods of Taking Drugs 140
Distribution of Drugs in the Body and Time-Response Relationships 142
Inactivation and Elimination of Drugs from the Body 144
Physiological Variables That Modify Drug Effects 145
Pathological Variables That Modify Drug Effects 145

Adaptive Processes and Drug Abuse 146
Tolerance to Drugs 147
Drug Dependence 149

Psychological Factors 150
The Placebo Effect 151

Addiction and Abuse: The Significance of Dependence 152
Hereditary Factors 152
Drug Craving 153
Other Factors 153
**CHAPTER 7**

CNS Depressants: Sedative-Hypnotics 158

Introduction 160

An Introduction to CNS Depressants 160
  - The History of CNS Depressants 160
  - The Effects of CNS Depressants: Benefits and Risks 161

Types of CNS Depressants 162
  - Benzodiazepines: Valium-Type Drugs 163
  - Barbiturates 167
  - Other CNS Depressants 170

Patterns of Abuse with CNS Depressants 173
  - Treatment for Withdrawal 175

**CHAPTER 8**

Alcohol: Pharmacological Effects 180

Introduction 182

The Nature and History of Alcohol 182

Alcohol as a Drug 183
  - Alcohol as a Social Drug 184
  - Impact of Alcohol 184

The Properties of Alcohol 184

The Physical Effects of Alcohol 185
  - Alcohol and Tolerance 188
  - Alcohol Metabolism 188
  - Polydrug Use 188
  - Short-term Effects 189
  - Dependence 191

Effects of Alcohol on Organ Systems and Bodily Functions 191
  - Brain and Nervous System 191
  - Liver 191
  - Digestive System 193
  - Blood 194
  - Cardiovascular System 194
  - Sexual Organs 194
  - Endocrine System 195
  - Kidneys 195
  - Mental Disorders and Damage to the Brain 195
  - The Fetus 195
  - Malnutrition 196

**CHAPTER 9**

Alcohol: A Behavioral Perspective 200

Introduction 202

Our Alcohol Consuming Society 202

Current Statistics and Trends in Alcohol Consumption 202
  - Drinking Population Percentages 203
  - Economic Costs of Alcohol Abuse 207

History of Alcohol in America 208
  - Drinking Patterns 208
  - Historical Considerations 208

Defining Alcoholics 212
  - Cultural Differences 212
  - Alcohol Abuse and Alcoholism 213
  - Types of Alcoholics 215

Cultural Influences 216
  - Culture and Drinking Behavior 216
  - Culture and Disinhibited Behavior 217
  - Culture Provides Rules for Drinking Behavior 218
  - Cultures Provide Ceremonial Meaning for Alcohol Use 218
  - Culture Provides Models of Alcoholism 218
  - Cultural Stereotypes of Drinking May Be Misleading 219
  - Culture Provides Attitudes Regarding Alcohol Consumption 220

College and University Students and Alcohol Use 220
  - Binge Drinking 221
  - Gender and Collegiate Alcohol Use 222

Women and Alcohol Consumption Patterns 222
  - The Role of Alcohol in Domestic Violence 224
  - Alcohol and Sex 225

Alcohol and the Family: Destructive Support and Organizations for Victims of Alcoholics 225
  - Codependency and Enabling 225
  - Children of Alcoholics (COAs) and Adult Children of Alcoholics (ACOAs) 226

Treatment of Alcoholism 226
  - Getting Through Withdrawal 227
  - Helping the Alcoholic Family Recover 227
CHAPTER 10

Narcotics (Opioids) 236

Introduction 238
What Are Narcotics? 238
The History of Narcotics 238
Opium in China 238
American Opium Use 240
Pharmacological Effects 241
Narcotic Analgesics 241
Other Therapeutic Uses 242
Mechanisms of Action 243
Side Effects 243
Abuse, Tolerance, Dependence, and Withdrawal 244
Heroin Abuse 244
Treatment of Heroin and Other Narcotic Dependence 251
Other Narcotics 253
Morphine 253
Methadone 254
Fentanyl 255
Hydromorphone 255
Meperidine 255
Codeine 256
Pentazocine 256
Propoxyphene 256
Narcotic-Related Drugs 256
Dextromethorphan 257
Clonidine 257
Naloxone 257

CHAPTER 11

Stimulants 262

Introduction 264
Major Stimulants 264
Amphetamines 264
Cocaine 274
Current Attitudes and Patterns of Abuse 278
Minor Stimulants 287
Caffeine-like Drugs (Xanthines) 287
OTC Sympathomimetics 292
Herbal Stimulants 292

CHAPTER 12

Tobacco 300

Introduction 302
Tobacco Use: Scope of the Problem 302
Current Tobacco Use in the United States 302
The History of Tobacco Use 303
Popularity in the Western World 304
History of Tobacco Use in America 304
Pharmacology of Nicotine 308
Nicotine Administration 308
Effects on the Central Nervous System 314
Other Effects of Nicotine 314
Clove Cigarettes 315
Cigarette Smoking: A Costly Addiction 315
Mortality Rates 315
Chronic Illnesses 316
Effects Without Smoking 317
Effects on the Fetus 318
Tobacco Use Without Smoking 318
Environmental Tobacco Smoke 320
Who Smokes? 323
Reasons for Smoking 323
Relapse or Readdiction 326
The Motivation Not to Smoke 326
Alternative Activities for Successfully Quitting 326
Smoking Cessation Aids 328
Social Issues: Looking to the Future 329
Tobacco as a Gateway Drug 329
Smoking Prohibition versus Smokers’ Rights 330

CHAPTER 13

Hallucinogens (Psychedelics) 334

Introduction 336
The History of Hallucinogen Use 336
The Native American Church 337
Timothy Leary and the League of Spiritual Discovery 337
Hallucinogen Use Today 338
The Nature of Hallucinogens 338
Sensory and Psychological Effects 338
Mechanisms of Action 341
Types of Hallucinogenic Agents 341
  Traditional Hallucinogens: LSD Types 341
  Phenylethylamine Hallucinogens 350
  Anticholinergic Hallucinogens 353
  Other Hallucinogens 354

CHAPTER 14

Marijuana 362

Introduction 364

History and Trends in Marijuana Use 365

Current Use of Marijuana 368

Marijuana Use and Youth 369
  Trends in Use 369
  Perceived Risk 369
  Disapproval 369
  Availability 371

Marijuana: Is It the Assassin of Youth? 371
  Peer Influences 371

The Role of Marijuana as a Gateway Drug 372

Misperceptions of Marijuana Use 372

Characteristics of Cannabis 373

The Behavioral Effects of Marijuana Use 375
  The “High” 375
  Subjective Euphoric Effects 376
  Driving Performance 377
  Critical Thinking Skills 378
  The Amotivational Syndrome 379

Therapeutic Uses and the Controversy over Medical Marijuana Use 381

The Physiological Effects of Marijuana Use 384
  Effects on the Central Nervous System 384
  Effects on the Respiratory System 385
  Effects on the Cardiovascular System 385
  Effects on Sexual Performance and Reproduction 386
  Tolerance and Dependence 387
  Chronic Use 387

CHAPTER 15

Inhalants 394

Introduction 396

History of Inhalants 396

Types of Inhalants 398
  Volatile Substances 398
  Anesthetics 400
  Nitrites 401

Current Patterns and Signs of Abuse 401
  Adolescent and Teenage Usage 401
  Gender, Race, Socioeconomics, and Abuse 402
  Signs of Inhalant Abuse 403

Dangers of Inhalant Use 403

Treatment of Abuse 404

CHAPTER 16

Over-the-Counter (OTC), Prescription, and Herbal Drugs 406

Introduction 408

OTC Drugs 408
  Abuse of OTC Drugs 408
  Federal Regulation of OTC Drugs 410
  OTC Drugs and Self-Care 410
  Types of OTC Drugs 412
  OTC Herbal (Natural) Products 422

Prescription Drugs 425
  Prescription Drug Abuse 425
  Proper Doctor-Patient Communication 426
  Drug Selection: Generic Versus Proprietary 427
  Common Categories of Prescription Drugs 428

Common Principles of Drug Use 435

CHAPTER 17

Drug Use Within Major Subcultures 440

Introduction 442

Athletes and Drug Abuse 443
  Drugs Used by Athletes 444
  Prevention and Treatment 451

Drug Use Among Women 452
  Women More Concerned About Drug Use Than Men 452
  Patterns of Drug Use: Comparing Females with Males 452
  Female Roles and Drug Addiction 454
Women's Response to Drugs  455
Treatment of Drug Dependency in Women  458

Drug Use in Adolescent Subcultures  459
Why Adolescents Use Drugs  460
Patterns of Drug Use in Adolescents  461
Adolescent versus Adult Drug Abuse  462
Consequences and Coincidental Problems  462
Prevention, Intervention, and Treatment of Adolescent Drug Problems  468
Summary of Adolescent Drug Abuse  470

Drug Use in College Student Subcultures  470
Reasons for College Students' Drug Use  473
Additional Noteworthy Findings Regarding Drug Use by College Students  473

HIV and AIDS: The Disease  475
Nature of HIV Infection and Related Symptoms  475
Diagnosis and Treatment  476
Who Is at Risk for AIDS?  477
AIDS and Drugs of Abuse  480
Adolescents and AIDS  481
What to Do about HIV and AIDS  481

The Entertainment Industry and Drug Use  482
More Recent Promoter of Drug Use: The Internet  484

CHAPTER 18

Drug Use/Abuse Prevention  492

Introduction  494
Drug Prevention Programs  495

Considering the Audience and Approach  496
An Example of Drug Prevention at Central High in Elmtown  498

Comprehensive Prevention Programs for Drug Use and Abuse  500
Community-based Drug Prevention  500
School-based Drug Prevention  501
Family-based Prevention Programs  504

Drug Prevention Programs in Higher Education  505
Overview and Critique of Existing Prevention Programs  505

Examples of Several Current Large-scale Drug Prevention Programs  506
BACCUS and GAMMA Peer Education Network  506
Fund for the Improvement of Post-secondary Education Drug Prevention Programs  507
D.A.R.E. (Drug Abuse Resistance Education)  508
Drug Courts  509

Problems with Assessing Successes of Drug Prevention Programs  511

Other Alternatives to Drug Use  511
Meditation  512
The Natural Mind Approach  512

Appendices  519

Appendix A
Federal Agencies with Drug Abuse Missions  519

Appendix B
Some National Organizations in the Addictions  521

Appendix C
Drug Use and Abuse  522

Index  529