

CHAPTER FIVE

THE METABOLISM OF THE
POLYUNSATURATED FATTY ACIDS

J. F. MEAD

Department of Biophysics and Nuclear Medicine
and Department of Biological Chemistry
School of Medicine, Center for the Health Sciences
University of California, Los Angeles

CONTENTS

	<i>Page</i>
INTRODUCTION AND HISTORICAL CONSIDERATIONS	161
II OXIDATIVE DEGRADATION OF POLYUNSATURATED ACIDS	162
III EARLY METABOLIC STUDIES AND THE USE OF ALKALINE ISOMERIZATION	164
IV WHOLE ANIMAL STUDIES WITHOUT TRACERS	165
A. Results obtained with the polybromide method	166
B. Structure determination of isolated acids	166
C. Results with gas chromatography	167
V WHOLE ANIMAL STUDIES WITH TRACERS	169
V STUDIES WITH SUBCELLULAR REACTIONS AND WITH CELLS IN CULTURE	178
VII METABOLISM OF UNNATURAL ISOMERS OF THE POLYUNSATURATED ACIDS	180
VIII COMPETITIVE INHIBITION OF POLYUNSATURATED FATTY ACID CONVERSIONS	182
IX. THE EFFECT OF PYRIDOXINE DERIVATIVES ON POLYUNSATURATED FATTY ACID METABOLISM	187
X. CONCLUSION	188
REFERENCES	