

## CONTENTS

|                                                  | PAGE |
|--------------------------------------------------|------|
| I INTRODUCTION-----                              | 1    |
| II ANATOMY OF LUMBAR SPINE.-----                 | 4    |
| III BIOMECHANICS OF LUMBAR SPINE.-----           | 18   |
| IV ETIOLOGY, CLASSIFICATION AND PATHOLOGY.-----  | 27   |
| V DIAGNOSIS                                      |      |
| - Clinical picture.-----                         | 44   |
| - Roentgenographic finding.-----                 | 49   |
| - Terminology and measurement.-----              | 52   |
| VI MANAGEMENT OF SPONDYLOLISTHESIS.              |      |
| A. <u>Conservative:</u> -----                    | 63   |
| - In children                                    |      |
| - In adult.                                      |      |
| B. <u>Surgical:</u> -----                        | 66   |
| 1- Fusion:                                       |      |
| a- Anterior lumbar interbody fusion.-----        | 70   |
| b- Posterior lumbar interbody fusion.-----       | 72   |
| c- Poserolateral spinal fusion.-----             | 74   |
| 2- Decompression.-----                           | 79   |
| 3- Combination of decompression and fusion.----- | 81   |
| 4- Reduction and stabilization.-----             | 87   |
| 5- Internal fixation:                            |      |

|                                                                 |     |
|-----------------------------------------------------------------|-----|
| a- Internal fixation by AO Malleolar screw and bone graft-----  | 95  |
| b- Internal fixation by tension band wiring and bone graft----- | 97  |
| c- Internal fixation by Hartishill rectangle.-----              | 98  |
| d- Internal fixation by pedicle screw plating.-----             | 101 |
| Algorithm for non-operative and operative treatment.            |     |
| VII SUMMARY.-----                                               | 105 |
| VIII REFERENCES.-----                                           | 109 |
| IX ARABIC SUMMARY.-----                                         |     |