Contents

6 Chapter 1 – General introduction

18 Chapter 2 – Anatomically shaped cranial collimation (ACC) for lateral cephalometric radiography

32 Chapter 3 – Validation of anatomically shaped cranial collimation (ACC) in orthodontic lateral cephalography

42 Chapter 4 – Dose reduction in orthodontic lateral cephalography: dosimetric evaluation of a novel cephalographic thyroid protector (CTP) and anatomical cranial collimation (ACC)

58 Chapter 5 – Assessment of random error in phantom dosimetry with the use of error simulation in statistical software

70 Chapter 6 – Reducing an already low dental diagnostic X-ray dose: does it make sense? Comparison of three cost-utility analysis methods used to assess two dental dose-reduction measures

86 Chapter 7 – General discussion and conclusions

102 Chapter 8 – Summary

106 List of publications

107 Dankwoord

108 Curriculum vitae