

1. Record Nr.	UNINA9910140186103321
Titolo	Text-atlas of skeletal age determination : MRI of the hand and wrist in children // edited by Ernesto Tomei, Sofia Battisti, Milvia Martino, Daniel B. Nissman, Richard C. Semelka
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2014 ©2014
ISBN	1-118-69220-9 1-118-69214-4 1-118-69230-6
Descrizione fisica	1 online resource (186 p.)
Collana	Current clinical imaging
Altri autori (Persone)	TomeiErnesto BattistiSofia MartinoMilvia NissmanDaniel B SemelkaRichard C
Disciplina	611/.71
Soggetti	Pediatric diagnostic imaging Hand - Magnetic resonance imaging Wrist - Magnetic resonance imaging Skeletal maturity Bones - Growth
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Title page; Copyright page; Contents; Contributors; Introduction; Preface; CHAPTER 1: Anatomic Aspects of Bone Ossification and their Magnetic Resonance Counterparts; 1.1 Endochondral ossification; 1.1.1 Primary center of ossification (fetal life); 1.1.2 Growth plate; 1.1.3 Secondary centers of ossification (later in development); 1.2 Longitudinal bone growth; 1.3 Magnetic resonance aspects of endochondral ossification; 1.3.1 Bone marrow; 1.3.2 Epiphyseal cartilage; 1.3.3 Growth plate; 1.4 Wrist and carpal bones; References; CHAPTER 2: Bone Age: Medico-legal Issues; 2.1

## Introduction

2.2 Medico-legal fields of application 2.2.1 Unaccompanied children in Europe; 2.2.2 Unaccompanied children in the USA; 2.3 Criminal law; 2.4 Adoptions; 2.5 Ethical issues; 2.6 Conclusions; References; CHAPTER 3: Endocrinology, Puberty, and Disorders of Pubertal Development; 3.1 Introduction; 3.2 Alterations of the time of onset of puberty; 3.3 Early puberty; 3.4 Precocious puberty; 3.4.1 Clinical and diagnostic evaluation; 3.4.2 Therapy; 3.5 Late puberty; 3.6 Delayed puberty; 3.6.1 Clinical and diagnostic evaluation; 3.6.2 Therapy; 3.6.3 Imaging; References

CHAPTER 4: MR Assessment of Skeletal Age in Healthy Children 4.1 Introduction; 4.2 State of the art of age estimation methods; 4.2.1 MR skeletal imaging of the wrist and hand; 4.3 Conclusions; References;

CHAPTER 5: Maturation of Individual Bones of the Hand and Wrist in Healthy Children; 5.1 Grading system of MR images to assess skeletal estimation; 5.2 MR images of maturation of individual bones; 5.3 Details of MRI maturation scoring system; 5.4 Notes on the use of the bone maturation tables; 5.5 Conclusions; References; CHAPTER 6:

Musculoskeletal Findings in Young Athletes; 6.1 Introduction 6.2 Athletics associated with delayed bone aging 6.3 Athletics associated with premature (advanced) bone aging; 6.4 Athletics associated with specific forms of overuse trauma; References; CHAPTER 7: Bone Marrow Maturation in Healthy and Diseased States; 7.1 Introduction; 7.2 Healthy bone marrow and the role of magnetic resonance; 7.3 Bone marrow disorders; 7.3.1 Bone marrow reconversion; 7.3.2 Bone marrow infiltration/replacement/deposition; 7.3.3 Bone marrow depletion/failure; References; CHAPTER 8: Nutrition and Growth; 8.1 Introduction; 8.2 Anorexia nervosa; 8.3 Obesity; References

CHAPTER 9: MRI Skeletal Age Estimation in Celiac Disease 9.1 General aspects; 9.2 Therapy; 9.3 Imaging; References; CHAPTER 10: Growth Failure and Pediatric Inflammatory Bowel Disease; 10.1 General aspects; 10.1.1 Disruption of the GH-IGF-1 axis; 10.1.2 IGF-1-independent mechanisms; 10.1.3 Tumor necrosis factor; 10.1.4 Chronic corticosteroid therapy; 10.2 Imaging of individuals with childhood onset IBD; References; CHAPTER 11: Adult Bone Diseases That Begin in Childhood; 11.1 General aspects; 11.2 Imaging; References; CHAPTER 12: Skeletal Findings in Neurometabolic Disease; 12.1 Introduction 12.2 Phenylketonuria

---

### Sommario/riassunto

Text-Atlas of Skeletal Age Determination: MRI of the Hand and Wrist in Children collects in a single volume all that is currently known and applicable about the use of magnetic resonance imaging (MRI) for the assessment of bone age. The radiographic examination of the hand/wrist was initially used to study skeletal development, correlating skeletal and chronological age in order to verify potential growth and whether a need for intervention was necessary. In recent years, the reasons for this examination have expanded beyond assessment of development, into such are

---