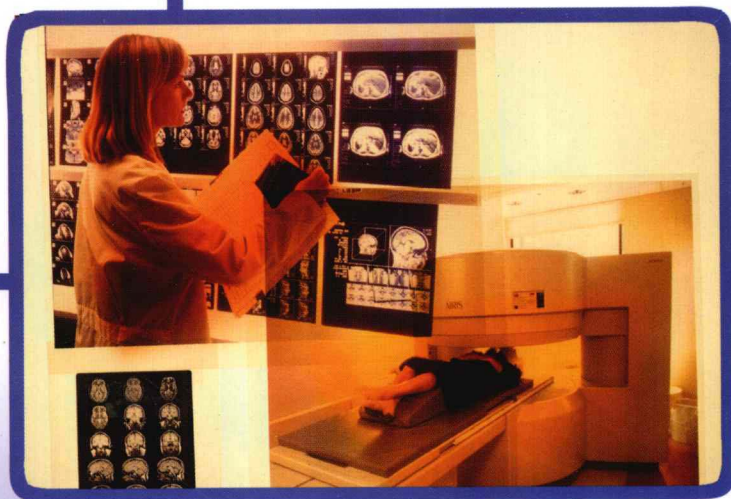


放射诊断学英语

English in Radiodiagnostics

侯仲军 主编



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科学出版社

北 京

内 容 简 介

本双语教材密切结合放射诊断学临床实践,以英语写作和听力为突破口,逐步深化英语学习,提高英语应用能力。从2003年开始,它作为广州医学院医学影像学系双语课程试用教材,获得良好教学效果。本书适合于医学影像学系双语教学和英语教学,也为放射科医生和技术人员提供参考。

This bilingual textbook links closely with the clinical practice in radiodiagnosics, focusing on writing skills and depth of listening comprehension, in order to facilitate the learning process so that learners can easily improve their capability of comprehensively utilizing English in radiodiagnosics. This book has been tried out as a bilingual teaching manual in the medical imaging department of Guangzhou Medical College since 2003 and has achieved a satisfactory result. It is suitable for bilingual teaching and English teaching in a medical imaging department. Also, it can meet the requirement of a reference for radiologists and radiological technicians.

图书在版编目(CIP)数据

放射诊断学英语=English in Radiodiagnosics/侯仲军主编. —北京:科学出版社,2008

ISBN 978-7-03-021933-6

I. 放… II. 侯… III. 放射诊断-英语-医学院校-教材 IV. H31

中国版本图书馆CIP数据核字(2008)第067050号

策划编辑:李国红 / 责任编辑:邹梦娜 李国红 / 责任校对:鲁素
责任印制:刘士平 / 封面设计:黄超

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科学出版社出版

北京东黄城根北街16号

邮政编码:100717

<http://www.sciencep.com>

新蕾印刷厂印刷

科学出版社发行 各地新华书店经销

*

2008年7月第一版 开本:787×1092 1/16

2008年7月第一次印刷 印张:15 1/4

印数:1—3 000 字数:370 000

定价:44.80元

(如有印装质量问题,我社负责调换<新蕾>)

放射诊断学英语

English in Radiodiagnostics

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序

科学是没有国界的,因此,作为传递科学信息的语言也是没有国界的。今天和以后,医学科学信息的主要语言文字载体——英语,就像计算机已悄然进入百姓家一样,已经成为医生日常工作中的常备工具。不能使用这个工具就如同不会应用网络系统一样,终将被抛出主流信息之外,这位医生也必然不会是合格的医生。

相对于公共英语来讲,专业英语的表达更为规范,语法更为严谨,对于已经有了相应公共英语基础的大学生或研究生来讲,翻译和理解应不困难。但专业英语的特点是大量的专业词汇具有其特定的词源,大多不用于日常口语中;很多专业词汇有特定的读音,甚至在英语和美语(美式英语)中的读音与重音都不一致。此外,和八股文一样,医学英语在论文的行文、专业领域的表述上也有自己较为特定的格式。这些,都要求医学生只能通过多看、多读、多听的方式来掌握,最终还要能以约定俗成的方式在口头和书面上表达。

侯仲军副教授集自己学习的体会和多年的教学经验,编写的这套专业英语视、听教材是一本适用于解决上述需求的入门读物,可以较好地满足医学生尽快跨入专业英语门槛的需求。该书的听力训练部分专门请外籍英语教师朗读,可以从开始即掌握正确的发音。

语言的学习同样是无止境的,但在一个较好的平台上起步,则可以通过阅读大量的英文专业杂志与参考书,以及和他国医生的直接交流,使自己的语言能力更快地提升。

中华医学会放射学分会 主任委员

中华放射学杂志 总编辑

天津医科大学第一中心临床学院 放射科主任

祁 吉



2007年12月18日

前言

本双语教材内容分两部分,第一部分为放射诊断学报告的中英文书写;第二部分为放射诊断学听力理解,立足于全方位训练和增强读者在放射诊断学领域中使用英语的能力,全书以中英文对照的形式编排,专业知识和英语学习相得益彰。

第1部分共12章,内容包括X线检查、胃肠道造影、心血管造影、介入放射学、多排螺旋CT和磁共振成像。根据教学病例和解剖学图谱绘制线条图304幅,对放射诊断学报告的基本要求,各系统基本病变的描述,结合具体病例,进行总结和分析。目的是使读者从实际出发,逐步养成全面分析,而又突出重点的良好习惯,正确认识和解释放射学征象,并能书写合格的放射诊断学中英文报告,也便于临床医师对放射诊断学实践的中英文表达有进一步的了解。

第2部分共4章,第13章放射学发展简史,简要介绍在放射诊断学发展史上里程碑式的重大事件。第14章放射诊断学检查技术,介绍放射诊断学各种检查的过程、检查注意事项和主要设备的基本结构。第15章放射诊断学实例分析,对20个实例的40幅插图(见光盘)进行简要的解释。第16章收录了750个放射诊断学教科书和专著中常用的单词和短语,以其常见的应用形式出现,附音标、读音和中英文解释。由美国英语教师Chris Beckdolt朗读,通过Authorware软件制成电脑学习课件。第2部分课件以常用的句型、表达方式和常用词汇为核心,语音清晰、自然。第13至第15章附有阅读进度条,便于反复学习和模仿,提高听力理解能力。本着“先治聋、后治哑”的原则,循序渐进,水到渠成。

为保证教材英语部分的准确性和质量,邀请中山大学北校区(医学部)外语中心曹素贞老师和美国英语教师Mr. Ivan R. Harris为英语审校,聘请Mr. Chris Beckdolt担任英语顾问。

由于我们的水平有限和放射诊断学的不断发展变化,书中难免存在不足或错误,敬请有关专家、学者和读者指正。

衷心感谢中华医学会放射学分会主任委员、中华放射学杂志总编辑、著名放射学家祁吉教授为本教材作序,并对编写工作提出有针对性的建议,这将激励我们以更饱满的热情投入双语教学,不断提高教学水平。

在教材编写过程中,周庸儒医师和李力美术师细心描绘线条图;广州医学院吴铭宗实验师精心录音;中山大学外语学院林福音教授热情指导;广州医学院第二附属医院和天津市第三中心医院同事们积极帮助,特别是陈姣护士为第2部分第16章电子文档整理付出了辛勤劳动,在此一并表示衷心感谢。

衷心感谢北京凯思轩达系统工程有限公司和天津安克医疗器械销售有限公司为本教材出版给予的大力支持。

侯仲军

2007年12月

Preface

There are two parts in this book, namely, the writing of radiodiagnostic reports in Chinese and English in Part 1, and listening comprehension in radiodiagnostics in Part 2. This textbook is intended to be an efficient bilingual teaching tool to help learners improve their English in listening, speaking, reading and writing skills in the field of radiodiagnostics. The contents of this book have been arranged in Chinese and English, so that professional knowledge and English can be brought out the best in each other.

Part 1 of this book covers the writing of radiodiagnostic reports in Chinese and English in 12 chapters, including X-ray plain radiography, contrast examination in the gastrointestinal tract, cardiovascular angiography, interventional radiology, multidetector-row Computed Tomography (MDCT) and MRI. Based on the radiological teaching radiographs and anatomical atlas in each system, there is in-depth coverage of general considerations of radiodiagnostic reports, descriptions of basic pathological changes and their corresponding findings on radiographs, as well as examples of radiodiagnostic reports including 304 line drawings. Our aim is to facilitate and standardize the writing of radiodiagnostic reports in Chinese and English for learners, and to cultivate their analytical and incisive minds in reading and interpreting radiographs completely and systematically. Similarly, for clinical physicians, it can help them better understand the radiological examinations and diagnoses as expressed in both Chinese and English.

In Part 2, four chapters are dedicated to listening comprehension. In chapter 13, the brief introduction to the radiological history covers some very important historical events in radiology. In chapter 14, techniques in radiological examinations, involve radiological examination processes, cautions in each procedure and the basic structure of radiological equipment. The following chapter, 15, presents 20 practical cases with 40 images (on CD) illustrated with brief interpretations in the radiological field. Lastly, in chapter 16, seven hundred and fifty words and phrases have been selected from radiological textbooks and monographs in their common applied forms. Each word has been attached phonetic symbol, pronunciation, and interpretations in Chinese and English. All the documents were read by an American English teacher, Chris Bechdolt. A corresponding computer-aided instruction (CAI) has also been produced by means of Authorware software. After clicking the sound button on each slide, a natural and clear sound will be heard. In addition, an indicator of progress has been set up on the bottom of each slide from chapter 13 to chapter 15. Through repeated listening and imitating, the listeners can hopefully improve their listening comprehension. With an objective to cure the deaf before treating the dumb symptoms in language learning, we intend to guide students in the proper course step by step and achieve success.

To ensure a better accuracy and properness in English, we invited Ms Suzhen Cao, a lecturer from the Foreign Languages Center of Sun Yat-sen University, Northern Campus (for medical colleges), and an American English teacher Mr. Ivan R. Harris to act as English revisers, and Mr. Chris Beckdolt to be an English consultant.

Upon publication of the book, we would like to express our sincere gratitude to Professor Ji Qi, the chief commissioner of the Society of Radiology of the Chinese Medical Association, and the

editor in chief of the Chinese Journal of Radiology, and a well-known radiologist, for writing the prelude and presenting pertinent suggestions for this book. His kindness will encourage us to go still further in the bi-lingual medical education.

Our sincere acknowledgments are bestowed on Doctor Yongru Zhou and an artist Li Li for the line drawings for this book. Also, we will never forget the painstaking work given by an experimentalist from Guangzhou Medical College, Mingzong Wu who was engaged in the recording for this book. Meanwhile, we gratefully thank Professor Yuyin Lin from the School of Foreign Languages, Sun Yat-sen University, who provided enthusiastic instructions for this book. Moreover, our wholehearted gratitude would go to our colleagues in The Second Affiliated Hospital of Guangzhou Medical College and The Third Central Hospital of Tianjin for their energetic help, especially a praiseworthy nurse, Ms Jiao Chen who put in a lot of hard work in sorting out electronic files in chapter 16, Part 2 of this book.

Indeed, we heartily appreciate the generous support for the publication of this book from Beijing Casstar Engineering Systems. Inc. and Tianjin Anke Sales Company in Medical Instruments. Inc.

December 2007.

Zhongjun Hou

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第 1 部分 放射诊断学报告的中英文书写

Part 1 The Writing of Radiodiagnostic Reports in Chinese and English

第 1 章 放射诊断学报告概要 Chapter 1 Outline of Radiodiagnostic Reports

第 1 节 放射诊断学报告的原则 Section 1 The Principle of Radiodiagnostic Reports

从事放射学诊断的医生应全面、客观地依据患者的放射学所见,密切结合临床和其他相关检查作出判断。

以下几点很重要:

(1) 以人体解剖学和生理学为基础,熟悉正常放射学影像。

(2) 以病理学、医学诊断学和放射诊断学为基础,认识异常放射学影像。

(3) 结合临床、实验室检查和其他影像学检查及治疗经过,还要考虑检查部位、体位、技术方法和设备方面的因素,养成全面观察和综合分析的良好习惯,才能得出可靠的放射学诊断结论。

Radiologists should make rational and reliable conclusions based on radiodiagnostic findings combined with the clinical data and the other related and corresponding tests and examinations of a patient in detail.

The following are essentials in radiodiagnosis.

(1) Normal radiodiagnostic findings are familiarized on the basis of anatomy and physiology of the human body.

(2) Abnormal radiodiagnostic findings are identified in accordance with the knowledge of pathology, medical diagnostics and radiodiagnostics.

(3) The radiodiagnostic findings should be combined with the clinical symptoms and signs, tests, other medical imaging information and therapeutic effectiveness to make a reliable diagnosis (or diagnoses). Meanwhile, all technical factors in the examination should be taken into consideration, such as postures, projections, regions of the body, examination techniques and imaging equipment. Only through cultivating a good habit of analyzing radiographs in a certain order and interpreting the radiological findings as an interrelated whole, then, radiologists can reach reliable conclusions in radiodiagnosis.

第 2 节 放射诊断学报告的书写方法 Section 2 The Method of Radiodiagnostic Reports

放射学诊断一般采取先定位、定量,后定性的方法,前二者是条件,后者是结论。观察每幅图像,首先要了解它的技术条件,然后按一定顺序,如从患者的右侧至左侧,从上方至下方仔细观察、对比,或按自己的习惯全面分析,特别注意不要遗漏图像边缘的病变。

The tasks of radiodiagnosis are intended to resolve 3 kinds of questions which contain localization, quantification and characterization of lesion(s). The first two steps are prerequisites and the final step leads to a diagnosis (or diagnoses). For each radiograph, technical factors are considered firstly. Then, careful observations will be explored from the right to the left of a patient, from upward to downward or in some particular individual order. Be sure, nothing is ignored especially in the margins of images.

1. 病变的分布

有些病变常好发生于人体的某个(些)部位,病变分布有一定的规律性,在范围上呈广泛性或局限性分布;在结构上呈散在分布或密集分布。

2. 病变的数目

病变的数目常与病变的性质有关。

3. 病变的形状与边缘

边缘模糊的片状影常为急性渗出性炎症;边缘整齐的条带影常为慢性增殖性病变。

4. 病变的密度

与周围正常组织对比,病变的密度增高、减低或相同。

5. 病变周围组织

有无“卫星”病灶;病变周围的正常结构有无改变。

1. Distribution of lesions

Some diseases often predispose in a certain part (parts) of the human body. There are some rules of thumb for them. Distributions of lesions are depicted as an extensive or localized range, scattered or dense structure.

2. Numbers of lesions

These often relate to the characterization of lesions

3. Shapes and margins of lesions

A fuzzy margin on a patchy shadow often represents an acute inflammation, while a clear margin in a stripe-like substance usually suggests a chronic proliferation.

4. Changes in density

In comparison with the normal surrounding tissues, lesions are described as high density, low density or isodensity.

5. Surrounding tissues

It is important to verify whether there are scattered “satellite” nidi and alterations of the surrounding normal structures.

第3节 放射诊断学报告的结构

Section 3 The Structure of Radiodiagnostic Reports

放射诊断学报告是放射科医师的会诊意见,应高度重视。它作为医疗记录的一部分,也是医疗诉讼的依据。所以要用词准确、恰当,层次清楚,分析合理,绝不能草率从事。放射诊断学报告应包括以下内容:一般资料、描述部分、诊断部分和医师签名。

1. 一般资料

一般资料包括患者的姓名、年龄、性别;检查日期;投照部位、投照体位、X线检查号、CT检查号、MRI检查号以及胶片序号、住院号、送检科室和临床诊断。

2. 描述部分

一般按摄片的部位、范围,受检器官的组织结构顺序进行描述。当发现病变时,按先重后轻,先因后果,用X线术语描述,避免诊断用语,如脓肿或骨折等。

The writing of a radiodiagnostic report has to be a precise work because it is not only a consulting suggestion for clinicians but also a medicolegal document. The radiologists should choose words carefully and exactly and try to make the report in clarity of description and a reasonable analysis. Carelessness is always avoided at any condition. A radiodiagnostic report should include the following items of common information, description, diagnosis (or diagnoses) and signature of the radiologist(s).

1. Common Information

Filling out the header line by line, such as Name, Age, Sex of the patient; Date of X-ray examination, Regions of examination, Positions of X-ray radiographs, the Number of X-ray examinations, the Number of CT examinations, the number of MRI examinations, and Serial number of films, the Number of the inpatient and the department of a patient and the Clinical diagnosis (or diagnoses).

2. Descriptive Part

Based on the order of regions of examination, ranges and structures of the radiographs, description of radiodiagnosis abides by that sequence. If disorders happen, the description goes in a decreasing order of severity, (that is from serious illnesses to less serious ones), or in a cause-effect manner. Professional and radiological normative terms should be applied, while the names of diseases must be avoided, such as abscess or fracture, and etc.

为避免遗漏,各系统描述时主要包括以下内容:

(1) 呼吸系统:胸廓、肺部、纵隔、膈肌。

(2) 循环系统:心脏大血管、肺部、膈肌、胸廓。

(3) 骨关节系统:骨质、关节、生理曲度、软组织。

(4) 腹部平片:膈肌、腹部器官、气体、气-液平面、结石、异物、腰大肌、腹膜外脂肪线、骨骼。

(5) 头颅五官:骨质、鼻窦、乳突、骨缝、脑回压迹、牙齿、软组织。

(6) 造影检查:造影检查器官的形态及功能改变。

3. 诊断部分

经全面描述之后,以放射学所见和征象为依据,参考临床资料(年龄、性别、症状和体征、职业、接触史、居住地区、既往史等)及相关检查(化验、超声、核医学、心电图和脑电图等)进行综合分析,并做出判断,应注意以下几点:

(1) 描述部分与诊断部分前后呼应,逻辑性强。

(2) 层次分明,先主要病变,后次要病变,不应千篇一律。

(3) 针对临床医师提出的问题予以解释和回答。

(4) 必要时去病房查阅病历和检查患者,并对照病理所见和诊断。

依据放射学所见和征象进行逻辑推理、判断,可分为以下几种情况:

(1) 诊断明确者,直接提出诊断,如线性骨折;如有几个诊断,可按先重后轻,先主要病变,后次要病变,先天性变异通常放在最后。

To reduce as much as possible the chance of neglecting any information, systemic description should cover the following key points respectively.

(1) Respiratory system: thoracic cage, lungs, mediastinum, and diaphragm.

(2) Circulatory system: heart and great vessels, lungs, diaphragm, thoracic cage.

(3) Skeletal system: bones, joints, physiological curvature, and soft tissues.

(4) Abdominal plain radiograph: diaphragm, shadows of abdominal organs, gases, air-fluid level(s), stones, foreign body (bodies), psoas, extraperitoneal fatty lines, and bones.

(5) Skull and five sensory organs: bones, paranasal sinuses, mastoid processes, sutures of bones, joints, soft tissues, tooth (teeth).

(6) Contrast examination: alterations of shapes and functions in the examined organs.

3. Diagnostic Part

After a detailed description, a comprehensive analysis will be made based on the radiodiagnostic findings and signs, the clinical data (Age, Sex, Symptoms and physical signs, Profession, Contact history, Populated area, Past history) and corresponding tests (Laboratory tests, Ultrasound, Nuclear Medicine, ECG and EEG examinations). Then, conclusions or diagnoses can be derived. However, the following points should be always considered:

(1) The described contents must be in accordance with logical diagnostic conclusions.

(2) The most serious disease should be emphasized and analyzed first, and then, the less serious and the least serious diseases. They can not be lumped together.

(3) Radiological diagnoses interpret and answer directly the questions the clinicians raise.

(4) Sometimes, radiologists should go to the wards, look up the illness record and examine the patients personally. Sometimes, it is necessary to compare the pathological observations and diagnosis (diagnoses).

Diagnostic conclusions must be induced from objective findings and logical analyses. The following are common patterns of diagnostic conclusions.

(1) A specific diagnosis can be given in a straightforward manner, such as linear fracture. If there are several diagnoses, they should be listed according to the severity or possibility of illnesses. The most serious disease and the most likely disease will be set at the beginning and then next to more slight or less likely diseases. Congenital variation(s) should always be put at the end.

例 1(从重至轻)

右上肺大叶性肺炎;
左上肺陈旧性肺结核;
左侧第四肋骨前端叉状肋。

例 2(从原因到结果)

风湿性心脏病;
二尖瓣狭窄;
急性左心功能衰竭;
双侧胸腔积液。

2) 治疗后复查的患者(内科治疗或手术治疗),通过对照治疗前后的图像变化,判断病变的演变过程。应明确回答病情痊愈、好转、无改变或恶化。同时,放射科医师要熟悉手术后改变对放射学成像的影响,以便能及时发现肿瘤残留和肿瘤复发。

3) 对于疑难病历,一时难以做出明确结论,可采用讨论方式。结合放射学所见和征象及有关资料,提出某种或几种疾病的可能性及相关的鉴别诊断,按先重后轻排列,作为临床进一步检查和诊断的基础。

4. 签名

签名是放射诊断学报告的最后环节,是放射科医师在核对放射诊断学检查和报告的各个方面准确无误后,对报告内容和结果的充分肯定,所以要认真对待,特别是在电子版的放射诊断学报告中,签名更加重要。它一方面代表了放射科医师严谨的工作态度,另一方面明确了这份报告的直接责任人。

(侯仲军 何以一)

Example 1(from serious illnesses to less serious ones)

Pneumonia in the right upper lobe;
Old tuberculosis in the left upper lung;
Bifurcation at the anterior end of the left fourth rib.

Example 2 (from cause to effect)

Rheumatic heart disease;
Mitral stenosis;
Acute failure of the left heart;
Bilateral pleural effusion.

2) For patients with follow-up examinations after treatment (conservative or operative treatment), the present radiographs must be compared with the previous ones. To make sure that any changes have occurred in the disease(s), such as complete recovery, improvement, unchanged or deterioration, the radiographs must be assessed definitely and correctly. In addition, radiologists should be familiar with typical postoperative changes in radiological films, so that they can distinguish those from residual tumors, or recurrent tumors as early as possible.

3) For some more sophisticated cases, sometimes, it is difficult to get a clear diagnosis in a moment. Usually, radiologists adopt a discussional approach in the report, listing possible diseases and relative differential diagnoses based on the X-ray findings, X-ray signs and clinical data. These can be a basis for further examinations and more definite diagnoses.

4. Signature

This is the last step before delivering a report. The signature represents the radiologist has checked all the aspects of the radiodiagnostic examination(s) and the content of the report carefully and completely, thus, it must be earnest. The signature has been more important in the electric version of a radiodiagnostic report. On the one hand, it typifies a precise and methodical mind of a radiologist. And on the other hand, it is a fact that the signing radiologist has to be responsible for the report.

(ZJ Hou YY He)

第2章 呼吸系统X线诊断

Chapter 2 Radiodiagnosis in the Respiratory System

第1节 肺 部

Section 1 The Lungs

A. 肺部基本病变概述

(Fig. 2-1~Fig. 2-17)

气管和支气管:炎症、结核、肿瘤、支气管扩张、先天性发育不良等。

肺血管:充血、淤血、栓塞、动静脉瘘等。

肺野:渗出、增殖、纤维化、钙化、肿块、空洞、空腔、肺不张和肺实变等。

按上述变化,一般分四个方面描述。

1. 胸廓

双侧是否对称,肋骨及其他所见骨质是否正常,有无骨质破坏、畸形、变形等。肋间隙是否对称、有无增宽、狭窄。有无胸壁软组织异常。双侧胸廓不对称常见于肺不张、胸膜病变、肺先天性发育不良、脊柱侧弯、肺硬变等。

2. 肺

(1) 肺门:有无增大、缩小、结节、肿块、钙化,肺门与纵隔的关系,密度改变(增高或减低),移位。(注:正常肺门宽度 $\leq 1.5\text{cm}$,高度约占2个肋间隙。肺门增大常见于肺癌、肺门淋巴结结核、先天性心脏病、后天性心脏病、肺动脉高压、结节病、淋巴瘤等;肺门缩小常见于肺动脉狭窄和先天性心脏病;肺门移位常见于肺不张、肺硬变、肺纤维化、胸膜病变等)。

A. Overview of Basic Pathological Changes in the lungs

(Fig. 2-1~Fig. 2-17)

Trachea and bronchus: inflammation, tuberculosis, tumor, bronchiectasis, congenital dysplasia and etc.

Pulmonary blood vessels: pulmonary arterial pleonaemia, pulmonary venous pleonaemia, pulmonary embolism, pulmonary arteriovenous fistula and etc.

Lung fields: pulmonary exudation, proliferation, fibrosis, calcification, mass, cavity, air containing space, atelectasis and consolidations, and etc.

As usual, there are 4 aspects of descriptions in the chest grounded on the basic pathological lesions mentioned above.

1. The thoracic cage

The thoracic cage is in symmetry or not. The ribs and the other bones seen, appear to be normal, or in destruction, or malformation, and deformation. Meanwhile, the intercostal spaces are symmetrical or not, broadened, or narrowed in the intercostal spaces. Soft tissues seem normal or abnormal. Asymmetry of the thoracic cage is often seen in pulmonary atelectasis, pleural disease, pulmonary dysplasia, scoliosis, pulmonary sclerosis and etc.

2. The lungs

(1) The pulmonary hilum: Pathological changes of the pulmonary hilum deal with hilar enlargement, decrease, nodules, mass, calcification, relationship with mediastinum, alteration of density (increase or decrease), and displacement (Note: A normal pulmonary hilum occupies no more than 15.0mm in width and 2 intercostal spaces in height. Enlargement of the pulmonary hilum often derives from lung cancer, tuberculosis of hilar lymph nodes, congenital heart disease, acquired heart disease, pulmonary arterial hypertension, sarcoidosis, lymphoma; decrease of the pulmonary hilum is often caused by stenosis of the pulmonary artery and congenital heart disease; displacement of the pulmonary hilum often occurs in pulmonary atelectasis, pulmonary cirrhosis, pulmonary fibrosis, pleural disease).