

Estudio: **MICROCREDENCIAL UNIVERSITARIA CR EN RADIOLOGÍA DE TÓRAX AVANZADA**

Código Plan de Estudios: **FD61**

Año Académico: **2024-2025**

ESTRUCTURA GENERAL DE LA MICROCREDENCIAL:

	Obligatorios	
	Créditos	Nº asignaturas
CRÉDITOS TOTALES	7	1

PROGRAMA TEMÁTICO:

Código Asignatura	Denominación de la asignatura	Créditos
707627	RADIOLOGÍA DE TÓRAX AVANZADA	7

GUÍA DOCENTE

Año académico	2024-2025	
Estudio	Microcredencial Universitaria en Radiología de Tórax Avanzada	
Nombre de la asignatura	RADIOLOGÍA DE TÓRAX AVANZADA	
Créditos (1 ECTS=25 horas)	7	
Modalidad (elegir una opción)		Presencial (más del 80% de las sesiones son presenciales)
		Híbrida (sesiones on-line entre el 40% y 60%, resto presencial)
	X	Virtual (al menos el 80% de las sesiones son on-line o virtuales)
Profesor/a responsable	Dra. Irene Villar Blanco	
Idioma en el que se imparte	Español	

PROFESORES IMPLICADOS EN LA DOCENCIA

César Sánchez Álvarez-Pedrosa. Dra. Pilar Pérez. Dra. Irene Villar. Dr. Santiago Coca Menchero

DISTRIBUCIÓN DE CARGA DE TRABAJO		ECTS	Horas
Sesiones presenciales/on-line asistencia profesor/a	Teóricas		28
	Prácticas		24
Trabajo personal del estudiante			123
Total		7	175

CONTENIDOS (Temario)

FUNDAMENTOS DEL DIAGNOSTICO

1. Fundamentos del diagnóstico. Las radiografías PA y lateral de tórax. ¿Cómo? ¿Por qué?
2. Fundamentos del diagnóstico. La radiografía de tórax. ¿Para qué? ¿Cómo se reconocen las alteraciones?
3. Limitaciones del estudio. Fundamentos del diagnóstico. Anatomía radiográfica general del tórax.
4. Fundamentos del diagnóstico. Las "Otras" proyecciones del tórax.
5. Antes de comenzar la lectura. Preguntas que debes hacerte. Información adicional al diagnóstico.
6. Cómo leer la radiografía de tórax. Signos indirectos de enfermedad torácica. Alteraciones de tamaño y densidad. Lesión intrapulmonar focal y multifocal.

COMO LEER UNA RADIOGRAFÍA DE TORÁX

7. Cómo leer la radiografía de tórax. Lesiones difusas de pulmón.
8. Cómo leer la radiografía de tórax. Mediastino.
9. Cómo leer la radiografía de tórax. Silueta cardiovascular. El pulmón en las cardiopatías.
10. Cómo leer la radiografía de tórax. Pleura. Espacio extrapleural. Hilio pulmonar

11. Cómo leer la radiografía de tórax. Diafragma. Caja torácica. Columna vertebral. Partes blandas.
12. Antes de terminar tu examen. Preguntas que debes hacerte.

TALLERES PRÁCTICOS

COMPETENCIAS ESPECÍFICAS (indicar un mínimo de tres y máximo de cinco)

- Conocimientos generales de la técnica de la imagen.
- Evaluación de la calidad técnica, reconocimiento de la proyección realizada.
- Conocer la limitación del estudio radiológico del tórax.
- Saber Como Realizar una lectura sistemática de la radiografía de tórax y como identificar las lesiones y ubicación en el Tórax.
- Distinguir entre patología pulmonar y extrapulmonar.
- Conocer los signos radiológicos de la patología torácica.

SISTEMA DE EVALUACIÓN

Test on-line y resolución casos clínicos on-line. Se realiza control de las horas de participación en aula virtual

Seguimiento directo del alumno durante las prácticas.

BIBLIOGRAFÍA

1. Wright FW. Radiology of the Chest and Related conditions. 2001
2. Rayos X. Coeficientes de absorción. (siguiendo a LeGuern.1965)
3. Veldkamp WJH. Et al. Dose and perceived image quality in chest radiography. Eur J Radiol. 2009
4. Dwyer AJ. Time and Disease: The Fourth Dimension of Radiology. Radiology.1989
5. Kuhlman JE et al. Dual-Energy Subtraction Chest Radiography: What to Look for beyond Calcified Nodules Radiographics. 2006./ F et al. Improved Detection of Small Lung Cancers with Dual-Energy Subtraction Chest Radiography. AJR.2008./Manji F et al. Comparison of dual energy subtraction chest radiography and traditional chest X-rays in the detection of pulmonary nodules.Quant Imaging Med Surg . 2016.
6. Vulasala SSR et al. Dual-Energy Imaging of the Chest. Semin Ultrasound CT MRI. 2022
7. Kennedy MP. AJR. 2007
8. Sangwaiya. Errare Humanum Est: Frequency of Laterality Errors in Radiology . Reports AJR 2009
9. Ross SJ et al. Sternoclavicular septic arthritis: review of 180 cases. Medicine (Baltimore). 2004
10. Ropp A et al. Did I miss that: Subtle and commonly missed findings in chest radiograph. Current Problems in Diagnostic Radiology 2015
11. Chotas. HG, Ravin CE. Chest radiography: estimated lung volume and projected area obscured by the heart, mediastinum and diaphragm. Radiology.1994
12. Lee W-K et al. Infected (Mycotic) aneurysms: Spectrum of Imaging appearances....Radiographics 2008
13. Kazerooni E. 2004
14. Muller NL. 2001
15. de Lacey et al. The Chest X-Ray. A Survival Guide. Saunders 2013
16. Lorentz Q et al. . Miss Rate of Lung Cancer on the Chest Radiograph in Clinical Practice
17. Felson B. Radiology 1950
18. Felson B. Localization of intrathoracic lesions by means of the posteroanterior roentgenogram. Radiology 1950

19. Iftikhar A et al. Primary pulmonary MALT lymphoma presenting as non resolving pneumonia. *Advances in Respiratory Medicine* 2017
20. Murayama S, et al: CT angiogram sign in obstructive pneumonitis and pneumonia. *J Comput Assist Tomogr.*1993
21. Mendelson E: Abdominal wall masses: The usefulness of the incomplete border sign. *Radiol Clin North* 1964/ elson B: *Chest Roentgenology*, ed 2. Philadelphia,WB Saunders, 1973
22. Yadav P et al. The 'dark bronchus' sign: HRCT diagnosis of *Pneumocystis carinii* pneumonia. *Ann Thorac Med.* 2007
23. Chiarenza A et al Chest imaging using signs, symbols, and naturalistic images: a practical guide for radiologists and non radiologists. *Insights into Imaging.* 2019. Signo del bronquio negro ("Dark bronchus" sign) VIH+. *Pneumocystis y Klebsiella Signo de la silueta. Variantes* Yadav P et al. The 'dark bronchus' sign: HRCT diagnosis of *Pneumocystis*
24. Kumaresh A et al. Back to Basics – 'Must Know' Classical Signs in Thoracic Radiology. *Thoracic Radiology. J Clin Imaging Sci* 2015.
25. LonguetR et al. Criteriaof thesilhouettesign. *Radiology*1977
26. Felson B. Localization of intrathoracic lesions by means of the posteroanterior roentgenogram. *Radiology* 1950
27. Shamsudeen I et al. Presentation and management of calcific mitral valve disease. *Int J Cardiol.* 2020
28. Tops LF et al. Multimodality imaging to assess left atrial size, anatomy and function. *Heart* 2007
29. Ray A et al. CT Halo sign: A systematic review. *Eur J Radiol* 2020/Shroff GS et al. CT signs in the lungs. *Semin Ultrasound CT MRI.* 2018
30. Fleischner FG. The visible bronchial tree; a roentgen sign in pneumonic and other pulmonary consolidations. *Radiology* 1948
31. Hansell DM et al. Fleischner Society: Glossary of Terms for Thoracic Imaging. *Radiology* 2008
32. Walker CM et al. Imaging Pulmonary Infection: Classic Signs and Patterns. *AJR* 2014
33. Collins J. CT signs and patterns of lung disease. *Radiol Clin N Am* 2001
34. Woodring JH ET AL. Types and mechanisms of pulmonary atelectasis. *J Thorac Imaging .* 1996
35. Ding A et al. The economic burden of incidentally detected findings. *Radiol Clin N Amer.* 2011
36. Griscom NT. *Radiology* 2002
37. Heelan RT. *Radiology* 1984
38. Berger WG et al. The solitary pulmonary noduleCan we really tell if the nodule is calcified?. *AJR* 2001
39. *Radiology* 2003/ Samei E et al. *Radiology* 2003
40. Dwyer AJ. Time and Disease: The Fourth Dimension of Radiology. *Radiology.*1989
41. Wong HYK et al. Frequency and Distribution of Chest Radiographic Findings in Patients Positive for COVID-19. *Radiology* 2020
42. Smith DL et al. A Characteristic Chest Radiographic Pattern in the Setting of COVID-19 Pandemic. *Radiology* 2020
43. Kluthke RA et al. The additional value of the lateral chest radiograph for the detection of small pulmonary nodules a ROC analysis. *Br J Radiol.* 2016
44. Pornsuriyasak P. *Diagn Interv Radiol.* 2015/ Choi YW. *Radiology* 2002.
45. Herman PG et al.. Disagreements in Chest Roentgen Interpretation. *Chest* 1975
46. Lacey et al. *The Chest X-Ray. A Survival Guide.* Saunders 2013
47. Lawrence DA et al. The Wonderful World of the Windpipe: A Review of Central Airway Anatomy and Pathology . *Canadian Association of Radiologists Journal .* 2015.
48. ButterbaughJE. *AJNR* 2007
49. Moncada. *Radiology.* 1992
50. Drury. *BJR.*2001
51. FukuyaT. *Acta Radiológica.* 1989
52. Greene R. *AJR.* 1978
53. Twebb RW. hin-Section CT of the Secondary Pulmonary Lobule: Anatomy and the Image—The 2004 Fleischner Lecture. *Radiology* 2006

54. Acta Med. Nagasaki. 2001
55. Yurasakpong Let al, The prevalence of the azygos lobe: A meta analysis of 1,033,083 subjects. Clinical Anatomy 2021
56. Felson B. 1960
57. Acta Med. Nagasaki. 2001
58. Austin JH. Radiology 1986
59. Hayashi K et al. Radiographic and CT Appearances of th Major Fissures. Radiographics 2001
60. Donald PR et al. Anton Ghon and His Colleagues and Their Studies of the Primary Focus and Complex of Tuberculosis Infection and Their Relevance for theTwenty-First Century. Respiration 2021
61. Interpretación libre del autor. Basado en Gray's Anatomy. Bartebyly. 1918
62. Gibbs JL et al. Lines and Stripes: Where Did They Go? From Conventional Radiography to CT.Radiographics . 2007
63. Hansell DM et al. Imagingofdiseasesofthechest.2007
64. Chiles C et al. Navigating the thoracic inlet. Radiographics. 1999
65. Gibbs JL et al. Lines and Stripes: Where Did They Go? From Conventional Radiography to CT.Radiographics . 2007
66. Muller NL. Subcarinal Lymph Node Enlargement: Radiographic Findings and CT Correlation. AJR. 1985
67. Marano M et al. Cardiac Silhouette Findings and Mediastinal Lines and . Chest 2011
68. Schnur MJ et al. Thickening of the Posterior Wall of the Bronchus Intermedius. Radiology. 1981
69. Van Gelderen WF. Localized loss of the infrabronchial descending aortic interface as a normal variant. Brit J Radiol 1992.
70. Takahashi K. Focal Obliteration of the Descending Aortic Interface on Normal Frontal Chest Radiographs: Correlation with CT Findings. Radiology 1994
71. Anatomy and pathology. St. Louis: Mosby. 1977
72. Felson B. Fundamentals. 1960
73. Duerinckx AJ. Plain film / MR imaging correlation in heart disease Radiol Clin N Am 2004
74. Hassani C et asl. Comprehensive Cross-sectional Imaging of the Pulmonary Veins. Radiographics 2017.
75. Felson B. Fundamentals.1960
76. A systematic review. PLoS One. 2017
77. Shamberger. RC. J. Thorac. Cardiovasc Surg. 1988
78. Santamarina MG et al. Multidetector CT for Evaluation of the Extrapleural Space. Radiographics 2017
79. Polireddy K et al. Blunt thoracic trauma: role of chest radiography and comparison with CT findings and literature review . Emerg Radiol 2022.
80. Detorakis EE et al. Intercostal lung herniation The role of imaging . Radiology Case. 2014/
81. Talbot BS et al. Traumatic Rib Injury: Patterns, Imaging Pitfalls, Complications, and Treatment. Radiographics 2017
82. Cardiac general. Occult malignancy presenting as constrictive pericarditis. Interactive CardioVascular and Thoracic Surgery 2011.
83. Fuller. Wikiradiography. 2009
84. Griffith JF et al. AJR. 1999 Khung S et al.Automated 3D Rendering of Ribs in 110 Polytrauma Patients: Strengths and Limitations. Acad Radiol 2017.
85. Talbot BS et al. Traumatic Rib Injury: Patterns, Imaging Pitfalls, Complications, and Treatment. Radiographics 2017
86. Zamagni E et al. Imaging in multiple myeloma: How? When?. Blood 2019
87. Kazerooni E. 2004
88. Muller NL. 2001
89. Speets AM et al. Br J Gen Pract. 2006

90. Berlin L and Hendrix RW. Perceptual errors and negligence. AJR:1998
91. Krupinski.EA. Softcopy Interpretation. eMedicine 2005
92. Krupinski.EA. Technology and perception in the 21st-Century Reading Room. JACR.2006
93. Raghu P ET AL. Self-Optimization in the Read Room: From Weariness to Wellness.Current Problems in Diagnostic Radiology. 2022.
94. Ontell FK et al. The Costal Cartilages in Health and Disease. Radiographics. 1997
95. Kumar TKS. Congenitally corrected transposition of the great arteries. J Thorac Dis 2020
96. Bahrami. S et al. Thoracic and Abdominal Devices Radiologists Should Recognize: Pictorial Review. AJR 2009
97. Kinderlehrer DA. Anorexia Nervosa Caused by Polymicrobial Tick-Borne Infections: A Case Study. International Medical Case Reports Journal 2021:/Brown RF, Bartrop R, Beumont P, Birmingham CL. Bacterial infections in anorexia nervosa: delayed recognition increases complications. Int J Eat Disord. 2005;3
98. Kinderlehrer DA. Anorexia Nervosa Caused by Polymicrobial Tick-Borne Infections: A Case Study. International Medical Case Reports Journal 2021:/Brown RF, Bartrop R, Beumont P, Birmingham CL. Bacterial infections in anorexia nervosa: delayed recognition increases complications. Int Eat Disord. 2005.
99. Lindsell DR et al. Brit Med J 1982
100. Potchen EJ. JACR 2006
101. Rothrock et al. J Emerg. Med 2002; 23:117-124
102. Ye R et al. Clinical characteristics of septic pulmonary embolism in adults: A systematic review. Respiratory Medicine 2014
103. Pereira CAC et al. Chronic hypersensitivity pneumonitis. J Asthma Allergy. 2016
104. Chen H et al. The Epidemiology of Lung Metastases. Front. Med..2021
105. Informe del General Surgeon. US Government.2004
106. Oken MM et al. J Natl Cancer Inst 2005
107. Bruzzi JF et al.. Radiographics 2006
108. Ye R et al. Clinical characteristics of septic pulmonary embolism in adults: A systematic review. Respiratory Medicine 2014
109. Restrepo CS et al. Pulmonary Complications from Cocaine and Cocaine based Substances: Imaging Manifestations. Radiographics 2007
110. Alli S et al. Occurrence of Post-Transplant Lymphoproliferative Disease in a Renal Transplant Patient. Cureus 2021
111. Breen RAM et al. Paradoxical reactions during tuberculosis treatment in patients with and without HIV co-infection. Thorax 2004/Breen RAM et al. Paradoxical reactions during tuberculosis treatment in patients with and without HIV co-infection. Thorax 2004/ Mobeireek A et al. Relapsing paradoxical reaction in miliary tuberculosis: a case report and literature review. Respirology Case Reports. 2020
112. Kanne JP, Phillips GS. Anterior mediastinal gossypiboma. Radiology Case Reports. [Online] 2011
113. Silva CIS and Müller NL. Drug-Induced disease... emin US CT MRI. 2006
114. Franquet T et al. Radiographics. 1996
115. Nakamura T et al. Dystrophic calcinosis with both a huge calcified mass in the cervical spine and calcification in the chest wall in a patient with rheumatoid overlap syndrome . Clin Rheumatol . 2016 / Wasserman P et al. MR imaging findings of calcinosis cutis in primary Sjogren syndrome, a rare manifestation. Radiol Case Rep . 2020
116. Zylak CJ et al. Developmental Lung Anomalies in the Adult: Radiologic-Pathologic Correlation. Radiographics 2002
117. Xue X et al. Intrathoracic rib: rare rib anomaly, review of the literature and proposal for classification. Int. J. Med. Sci. 2021
118. Ghaye B et al. Congenital Bronchial Abnormalities Revisited. Radiographics 2001
119. Hoey ETD et al. Imaging Appearances of Congenital Thoracic Lesions Presenting in Adulthood. Canadian Association of Radiologists Journal 2009
120. Hossain R et al- M i s e d Lu n g Ca n c e r. Radiol Clin N Am 2018
121. Dwyer DJ. Time and Disease: The Fourth Dimension of Radiology. Radiology 1989

122. Li Q et al. Differential diagnosis of localized pneumonic-type lung adenocarcinoma and pulmonary inflammatory lesion. *Insights into Imaging*. 2022
123. Ito T et al. Carcinoid-syndrome: recent advances, current status and controversias. *Curr Opin Endocrinol Diabetes Obes*. 2018
124. Torres-Tamayo N et al. 3D analysis of sexual dimorphism in size, shape and breathing kinematics of human lungs. *J Anat* 2018
125. Vummididi D and Stern EJ. Small lung volumen. *Stern-Gurney. Expertdd. Chest. Mairsys*. 2011
126. Suryanarayana J et al Difficult to wean: think of the diaphragm. *BMJ Case Rep.*. 2014.
127. Chapman AB et al. maging Approaches to Patients with Polycystic Kidney Disease. *Semin Nephrol*. 2011
128. Bommart S et al. . Normal postoperative appearances of lung cancer. *Diagnostic and Interventional Imaging*. 2016/ Konen E et al.Prevalence of the Juxtaphrenic Peak After Upper Lobectomy. *AJR* 2001
129. Woodring JH. Determining Pulmonary Comparison the Cause of Atelectasis: A of Plain Radiography and CT . *AJR* 1988
130. Kanne JP. Diffuse Pleural Thickening. *Stern-Gurney. Expertdd.Chest. Mairsys*. 2011
131. Huggins JT et al. Causes and management of pleural fibrosis. *Respirology* 2004
132. Nason LK et al. Imaging of the diaphragm: anatomy and function. *Radiographics*. 2012
133. Furak J et al. Diaphragm and transdiaphragmatic injuries. *J Thorac Dis* 2019
134. Pipavath S. Elevated hemidiaphragm. *Stern-Gurney. Expertdd.Chest. Mairsys*. 2011
135. Abbey-Mensah G et al. , Diaphragm Appearance: A Clue to the Diagnosis of Pulmonary and Extrapulmonary Pathology. *Current Problems in Diagnostic Radiology* 2017.
136. Navaratnarajah A, et al. Bochdalek hernias associated with intrathoracic kidney: a case report and systematic review of outcomesincluding renal function. *Clin Nephrol Case Stud* 2020/Sandstrom CK. Diaphragmatic Hernias: A Spectrum ofRadiographic Appearance *Curr Probl Diagn Radiol*, 2011
137. Ricoy J et al. Diaphragmatic dysfunction. *Pulmonol*. 2019
138. Caleffi-Pereira M et al,. Unilateral diaphragm paralysis: a dysfunction restricted not just to one hemidiaphragm. *BMC Pulm Med*. 2018
139. Goussard P et al. COVID19-associated unilateral transient phrenic nerve palsy in a young child with respiratory Failure. *Pediatric Pulmonology*. 2022
140. Chapman KR et al. Asthma patients' and physicians' perspectives on the burden and management of asthma. *Respiratory Medicine* 2021/ Sung A et al. The role of chest radiography and computed tomography in the diagnosis and management of asthma. *Curr Opin Pulm Med* . 2007.
141. *Mod. de Stern*. 2011
142. Litmanovich DE et al. Multidetector Computed Tomographic Imaging in Chronic Obstructive Pulmonary Disease. Emphysema and Airways Assessment. *Radiol Clin N Am* 2014/Newell Jr JD. CT OF EMPHYSEMA. *Radiol Clin N Am* 2002
143. Nemeč SF, et al. Pulmonary hyperlucency in adults. *AJR*. 2013
144. Saxena et al. Differential diagnosis of unilateral hyperlucent lung in children. *AJR* 2013
145. Vummididi D, Kanne JP. Bilateral opaque hemithorax en Expert ddx. *Chest. Amirsys*. 2011
146. Nutall FQ et al. Gynecomastia and drugs: a critical evaluation of the literatura. *Eur J Clin Pharmacol*. 2015
147. Vummididi D, Kanne JP. Unilateral opaque hemithorax en Expert ddx. *Chest. Amirsys*. 2011
148. Iftikhar A et al. Primary pulmonary MALT lymphoma presenting as non-resolving cura. Linfoma Malt. pneumonia. *Advances in Respiratory Medicine* 2017
149. Fleischner FG. The visible bronchial tree; a roentgen sign in pneumonic and other pulmonary consolidations. *Radiology* 1948 Hansell DM et al. Fleischner Society: Glossary of Terms for Thoracic Imaging. *Radiology* 2008
150. Collins J. CT SIGNS AND PATTERNS OF LUNG DISEASE. *Radiol Clin N Am* 2001
151. Webb WR. Thin-section CT of the secondary pulmonary lobule: anatomy and the image—the 2004.Fleischner lecture. *Radiology* 2006
152. “Bulging fissure sign” en Walker CM et al. Imaging Pulmonary infection. *Classic Signs and Patterns*. *AJR*. 2014./ Yamakawa H et al. Pulmonary Hodgkin´s Lymphoma presenting with a bulging fissure sign *Intern Med* 2014

153. Yamakawa H et al. Pulmonary Hodgkin's Lymphoma presenting with a bulging fissure sign. Intern Med 2014
154. Gadkowski LB .CLINICAL MICROBIOLOGY REVIEWS. 2008
155. Hare SS et al. The radiological spectrum of pulmonar lymphoproliferative disease. Brit J Radiol 2012.
156. Mandell MA et al. infectious Diseases Society of America/American Thoracic Society Consensus Guidelines on the Management of Community-Acquired Pneumonia in Adults. Clinical Infectious Diseases. 2007
157. van der Werf TS et al. Community adquired pneumonia caused by M tuberculosis- diagnosis with CT. Eur J Radiol 1997 / Lin C-H L et al. Unilateral lower lung fields opacities on chest radiography.....Eur J Radiol 2012
158. Gaeta M et al. MRI differentiation of pneumonia-like mucinous adenocarcinoma and infectious pneumonia. Eur J Radiol 2012
159. Proto AV. Lobar collapse: basic concepts. Eur J Radiol 1996
160. Massard G. Postoperative atelectasis. Surg Clin N Amer 1998
161. Rubin GD. Lung Nodule and Cancer Detection in CT Screening. Thorac Imaging. 2015
162. Borgheresi A et al. Tips and Tricks in Thoracic Radiology for Beginners: A Findings-Based Approach. Tomography 2023.
163. Miao Y et al. Correlation in histological subtypes with high resolution computed tomography signature of early stage lung carcinoma. Transl Lung Cancer 2017
164. Bankier AA et al. Recommendations for Measuring Pulmonary nodules at cT: A Statement from the Fleischner Society. Radiology 2017
165. MacMahon H et al. Guidelines for Management of incidental Pulmonary nodules Detected on cT images: From the Fleischner Society . Radiology 2017.
166. Hammer MM et al. Cancer risk in subsolid nodules in the national lung screening trial. Radiology 2019/ Wzltter JE et al. New subsolid pulmonary nodules in lung cancer screening: the Nelson Trial. Journal of thoracic oncology 2018
167. Azour L et al. Incidental Lung Nodules on Cross-sectional Imaging Current Reporting and Management . Radiol Clin N Am 2021
168. Khan AN et al. The calcified lung nodule: What does it mean? Annals of Thoracic Medicine. 2010/Fukuda T et al. Stepwise diagnostic algorithm for high-attenuation pulmonary abnormalities on CT Insights into Imaging 2023
169. Testa A et al. Early recognition of the 2009 pandemic influenza A (H1N1) pneumo by chest ultrasound. Crit Care 2012
170. Wesley HS et al. High discordance of chest x-ray and CT for detection of pulmonary opacities in ED patients: Implications for diagnosis pneumonia. Am J Emerg Med 2013
171. Lantz KE et al. Arteriovenous Malformations in the Setting of Osler-Weber-Rendu: What the Radiologist Needs to Know. Current Problems in Diagnostic Radiology 2022
172. Hansell DM et al. Fleischner Society: Glossary of Terms for Thoracic Imaging. Radiology. 2008/.
173. Chan C et al. Imaging of Cystic Lung Disease. Radiol Clin N Am 2022 .
174. Beigelman-Aubry C et al. Lung infections: The radiologist's perspective. Diagnostic and Interventional Imaging. 2012.
175. Shamberger RC et al. Pneumatocele complicating hyperimmunoglobulin E syndrome (Job's Syndrome). Ann Thorac Surg. 1992.
176. Gupta N et al. Diffuse Cystic Lung Disease .Part I. Am J Respir Crit Care Med. 2015.
177. Raoof L et al. Cystic Lung Diseases, Chest 2016
178. Rashidfarokhi M. Ectopic Anterior Mediastinal Pathology in the Chest: Radiologic-pathologic Correlation of Unexpected Encounters with the "Terrible Ts" . J Clin Imaging 2016
179. Interpretación libre del autor. Basado en Gray's Anatomy. Bartebly. 1918
180. Carter BW et al. A modern definition of mediastinal compartments. J Thorac Oncol 2014.
181. Carter BW et al. ITMIG Classification of Mediastinal Compartments and Multidisciplinary
182. Approach to Mediastinal Masses. Radiographics 2017
183. Breatnach E et al. Dimensions of the Normal Human Trachea. AJR 1984

184. Boiselle PM et al. Multiplanar and Three-Dimensional Imaging of the Central Airways with Multidetector CT. AJR 2002
185. Marano M et al. Cardiac Silhouette Findings and Mediastinal Lines and . Chest 2011.
186. PedrosaC y Cabeza B. El Mediastino en Pedrosa C. Diagnóstico por la Imagen. Mc Graw-Hill. Interamericana.1997
187. Kim HS et al. Thoracic Sequelae and Complications of Tuberculosis. Radiographics 2001
188. Maldonado JA et al. Congenital Thoracic Vascular Anomalies. Radiol Clin N Amer. 2010
189. Shahrzad M et al. Anterior Mediastinal Masses. AJR. 2014
190. Chiba Y et al. Mediastinal T-cellLymphoblastic lymphoma... Intern Med 2020
191. Vargas D et al. Cystic lesions of the mediastinum. Semin Ultrasound CT MRI. 2016
192. Stern. Gurney .Expert ddx. Chest. Amirsys. 2011
193. Franquet T. Air-containing Mediastinal Mass. Large airways. en Expert ddx. Chest. Amirsys. 2011
194. Scott. SC.. Radiographics. 2002. Naidich DP et al. Computed Tomography.2007. Kazerooni EA et al. The Cardio. Pulmonary Imaging.2004
195. Drevelegas A et al. Mediastinal germ cell tumors: a radiologic- pathologic review. Eur Radiol 2001
196. Shin JH et al. Neuronal tumors of the central nervous system: radiologic findings and pathologic correlation. RadioGraphics 2002
197. Restrepo C et al. Radiographics. 2011
198. Mod. de Glazer HS et al. High-attenuation mediastinal masses on unenhanced CT. Radiology 1991
199. Gurney JW.Contrast-enhancing Mass..en Sten. Gurney. Expertdd/Chest.Amirsys.2011
200. El-Sheriff AH et al. International Association for the study of lung cancer (IASLC) Lymph node map: Radiologic Review with CT illustration. Radiographics 2014
201. Mod. de Brant WE et al. Fundamentals of Diagnostic Radiology.2007
202. Hopper KD et-al. AJR 1990/ Webb WR. The Mediastinum en Thoracic Imaging.2005
203. River H et al. . Calcified mediastinal lymph nodes in Hodgkin's disease .Pediatr Radiol . 1984./ Mesurolle B et al. Unusual Radiologic Findings in the Thorax after Radiation Therapy. Radiographics 2000
204. McLennan TW et al... Radiology 1975 Bertrand M, et al. AJR 1977 Strijk SP. Acta Radiol Diagn. 1985
205. Sonavane SK et al. Comprehensive Imaging Review of the Superior Vena Cava. Radiographics 2015
206. Sonavane SK et al. Comprehensive Imaging Review of the Superior Vena Cava. Radiographics 201/ Azizi AH et al. Superior Vena Cava Syndrome . J A C C : C A R D I O V A S C U L A R I N T E R V E N T I O N . 2020
207. Lim JY et al. Dyspnoea and restrictive lung disease due to mediastinaland pleural lipomatosis in morbid obesity. Respirology Case Reports, 2019,/ Gaerte et al. Fat containing lesions of the chest. Radiographics 2002
208. Boiselle P.M.et al. Wandering wires: frequency of sternal wire abnormalities in patients
209. with sternal dehiscence. AJR 1999
210. Zylak. CM. Pneumomediastinum revisited. RadioGraphics 2000
211. de Lacey et al. The chest X-ray. A survival guide. Saunders. 2013
212. Agarwal PP. The Ring-around-the-Artery Sign. Radiology 2006
213. Chiles C et al. Navigating the thoracic inlet.Radiographics. 1999
214. Felson B. More chest roentgen signs and how to teach them. Annual Oration in memory of L. Henry Garland, Radiology.1968
215. Cury M et al.Supra-aortic vessels aneurysms: diagnosis andprompt intervention. J Vasc Surg. 2009
216. Whitten. Radiographics.2007
217. Wu C-Y. Hepatocellular Carcinoma With Sternal Metastasis. Clinical Gastroenterology and Hepatology. 2011
218. Restrepo CS et al. Radiographics 2009
219. Gibbs JM et al. Radiographics 2007. Marano R et al. Chest 2011
220. Müller NL. et al. Radiology 1985
221. Agarwal PP et al. Multidetector CT of Thoracic Aortic Aneurysms. Radiographics 2009
222. Boiselle PM et-al. Imaging of mediastinal lymph nodes: CT, MR, and FDG PET. Radiographics. 1998
223. Kligerman S Abbott G.A Radiologic Review of the New TNM Classification for Lung Cancer. AJR.2010

224. Boisselle PM et al. Imaging of mediastinal lymph nodes: CT, MR, and FDG PET. *Radiographics*. 1998
225. Müller NL et al. Subcarinal Lymph Node Enlargement: Radiographic Findings and CT Correlation. *AJR* 1985
226. Criado E et al. Pulmonary sarcoidosis: typical and atypical manifestations at high-resolution CT with pathologic correlation. *Radiographics*. 2010
227. Gibbs JM et al. Lines and stripes: where did they go?--From conventional radiography to CT. *Radiographics*. 2007
228. Schnur MJ et al. Thickening of the Posterior Wall of the Bronchus Intermedius. *Radiology*. 1981
229. Gibbs JM et al. Lines and Stripes: Where Did They Go? —From Conventional Radiography to CT. *Radiographics* 2007
230. Fasih N, et al. Leiomyomas beyond the uterus: unusual locations, rare manifestations. *Radiographics* 2008
231. Panda A et al. "Straddling Across Boundaries". *Thoracoabdominal Lesions: Spectrum and Pattern Approach*. *Curr Probl Diagn Radiol*, 2015
232. Culver GJ et al. Benign Lymphoid Hyperplasia (Castleman's Tumor) Mimicking a Posterior Mediastinal ~Neurogenic tumor. *Chest* 1997
233. Occhipinti M et al. Imaging the posterior mediastinum: a multimodality approach.. *Diagn Interv Radiol* 2015
234. Conrad A et al. Pott's disease associated with large and multiple abscesses in a 30-year-old migrant from Chad. *BMJ Case Rep* 2018
235. Restrepo CS et al. The diaphragmatic crura and retrocrural space: normal imaging appearance, variants, and pathologic conditions . *Radiographics*. 2008
236. Restrepo et al. *Radiographics*. 2008
237. Felson B. More chest roentgen signs and how to teach them. Annual Oration in Memory of L Henry Garland. MD. 1903-1966. *Radiology* 1968
238. Hanneman K et al. Congenital Variants and Anomalies of the Aortic Arch. *Radiographics* 2017
239. Felson B. *Fundamentals*. 1960
240. O'Rourke M et al. Aortic Dimensions and Stiffness in Normal Adults. *JAAC: Cardiovascular Imaging*. 2008
241. Sugawara J et al. JACC: Age-associated elongation of ascending aorta in adults. *Cardiovascular Imaging* 2008
241. Duerinckx AJ. Plain film / MR imaging correlation in heart disease *Radiol Clin N Am* 2004
242. Lipton MJ et al. How to approach cardiac diagnosis from the chest radiograph . *Radiol Clin N Am* 2004
243. Mayo C et al Situs inversus totalis: a statistical review of data on seventy-six cases with special reference to disease of the biliary tract. *Arch Surg* 1949
244. Mutlu H et al. A variant of Poland syndrome associated with dextroposition. *J. Thorac. Imaging*. 2007
245. Majdian PD et al. Approach to dextrocardia. *AJR*. 2007
246. Majdian PD et al. Approach to dextrocardia. *AJR*. 2007/ Winer-Muram HT et al. The spectrum of heterotaxic syndromes. *Radiol Clin North Am*. 1989.
247. Aisanov Z et al. Management of cardiovascular comorbidities in chronic obstructive pulmonary disease patients. *J Thorac Dis*. 2020
248. Truskiewicz K et al. Radiological Cardiothoracic Ratio in Evidence-Based Medicine. *J Clin Med*. 2021/ Simkus P et al. Limitations of cardiothoracic ratio derived from chest radiographs to predict real heart size: comparison with magnetic resonance. *imaging. Insights Imaging*. 2021.
249. Parker MS et al. Radiologic Signs in Thoracic Imaging: se Module. *AJR* 2009.
250. Zhang J et al. Clinical Presentation, Diagnosis, and Management of Idiopathic Enlargement of the Right Atrium: An Analysis Based on Systematic Review of 153 Reported Cases. *Cardiology* 2021
251. Tops >L et al. Multi-modality imaging to assess left atrial size, anatomy and function. *Heart* 2007
252. Luo Y et al. Massive calcification of giant left atrium in a rheumatic mitral stenosis patient: A case report. *respiratory Medicine Case Reports* . 2019
253. Shamsudeen I et al. Presentation and management of calcific mitral valve disease. *Int J Cardiol*. 2020
254. Douglas PS. The left atrium: a biomarker of chronic diastolic dysfunction and cardiovascular disease risk. *J Am Coll Cardiol*. 2003;
255. Rose CP. *Invest. Radiol*. 1982.

256. Hoffman R, Rigler L. Evaluation of the left ventricular enlargement in the lateral projection of the chest. Radiology 1965
257. Leaphart D et al. Call a Spade a Spade: Missed Diagnosis of Apical Hypertrophic Cardiomyopathy. Am J Med Sci. 2019
258. Bogaert J. MR imaging in Hypertrophic Cardiomyopathy: From Magnet to Bedside. Radiology. 2014
259. Zhang J et al. Clinical Presentation, Diagnosis, and Management of Idiopathic Enlargement of the Right Atrium: An Analysis Based on Systematic Review of 153 Reported Cases. Cardiology 2021
260. Kicska G en EXPERTddx. Chest. Amysis. 2011
261. Kicska G. Dilated aorta. Stern-Gurney. Expertdd.Chest. Marisys. 2011
262. Restrepo CS et al. Aortitis: Imaging Spectrum of the Infectious and Inflammatory Conditions of the Aorta. RadioGraphics. 2011./ Moore Dwet al. The great imitator: IgG4 periaortitis masquerading as an acute aortic syndrome on computed tomographic angiography. Radiol Case Reports. 2016
263. Litmanovich D e. t-al. AJR 2009/Nataf P et al. DILATION OF THE THORACIC AORTA:MEDICAL AND SURGICAL MANAGEMENT. Heart 2006.
264. Burgener FA. Differential Diagnosis in conventional radiography. Thieme 2008
265. Rivaud Y et al. The Azygos Vein From A to Z. Thorac Imaging . 2019/ Dudiak Cmet al. et al. CT evaluation of congenital and acquired abnormalities of the azygos system. Radiographics 1991
266. Cury M et al. Supra-aortic vessels. aneurysms: diagnosis and prompt intervention. J Vasc Surg. 2009
267. Souza AS et al. Chest film detection of coronary artery calcification. The value of the CAC triangle Radiology.1978
268. Ban X et al. Advanced imaging modalities provide new insights into coronary artery calcification. Eur J Radiol 2022
269. Alkadhi H et al. AJR 2010
270. Shriki J et al. Caseous mitral annular calcifications: Multimodality imaging characteristics. World J Radiol. 2010 .
271. Fox CS et al. Mitral Annular Calcification Predicts Cardiovascular Morbidity and Mortality . The Framingham Heart Study. Circulation 2003
272. Cummings KW et al. of Pericardial Diseases. Semin Ultrasound CT MRI . 2016/ Ünal E et al. The imaging appearances of various pericardial Disorders. Insights into Imaging.2019
273. Hassani C et asl. Comprehensive Cross-sectional Imaging of the Pulmonary Veins. Radiographics 2017.
274. Palla A et al. Enlargement of the Right Descending Pulmonary Artery in Pulmonary Embolism. AJR. 1983
275. AlNuaimi D et al. Pulmonary venous varix associated with mitral regurgitation mimicking a mediastinal mass: A case report and review of the literature . Radiology Case Report. 29018
276. Felson B. Fundamentals. 1960
277. El Kaddouri B et al. Fleischner Society Visual Emphysema CT Patterns Help Predict Progression of Emphysema in Current and Former Smokers: Radiology 2021 /Sharma N et al. Vanishing lung syndrome (giant bullous emphysema): CT findings in 7 patients and a literature review . J Thorac Imaging 2009
278. Jorobachi 1994.
279. Cazzola M et al. α 1-Antitrypsin deficiency and chronic respiratory disorders. Eur Respir Rev. 2020
280. Ota Y et al. Vascular Malformations and Tumors: A Review of Classification and Imaging Features for Cardiothoracic Radiologists . Radiology: Cardiothoracic Imaging 2023
281. Machado D et al. Swyer-James-Macleod syndrome as a rare cause of unilateral hyperlucent lung. Medicine (Balt). 2019
282. Worsley DF et al. Chest Radiographic Findings in Patients with Acute Pulmonary Embolism: Observations from the PLOPED Study. Radiology 1997
283. Durhan G et al. Imaging of congenital lung diseases presenting in the adulthood: a pictorial review. Insights Imaging. 2021. Castañer E et al. Congenital and Acquired Pulmonary Artery Anomalies in the Adult: Radiologic Overview. Radiographics 2006

284. Konen E et al. Congenital Pulmonary Venolobar Syndrome: Spectrum of Helical CT Findings with Emphasis on Computerized Reformatting. *Radiographics*. 2003/Wong K et al. Congenital venolobar syndrome, pulmonary sequestration, and horseshoe lung in a newborn female. *Radiol Case Rep*. 2019.
285. Bajwa F et al. A Review of Selected Adult Congenital Heart Diseases Encountered in Daily Practice. *Current Cardiology Reviews*, 2021,
286. Begbie M et al. Hereditary haemorrhagic telangiectasia (Osler-Weber-Rendu syndrome): a view from the 21st century. *Postgrad Med J*. 2003
287. Galiè N et al. 2015 ESC/ERS guidelines for the diagnosis and treatment of pulmonary hypertension. *Eur Respir J* 2015.
288. Foley RW et al. Computed tomography appearances of the lung parenchyma in pulmonary hypertension. *Brit J Radiol* 2020
289. Grosse C, Grosse A. CT findings in diseases associated with pulmonary hypertension: a current review. *Radiographics*. 2010
290. Peña E et-al. Pulmonary hypertension: how the radiologist can help. *Radiographics*. 2012.
291. Taslakian B et al. CT pulmonary angiography of adult pulmonary vascular diseases: Technical considerations and interpretive pitfalls. *Eur J Radiol* 2016/ Castañer E et al. Congenital and Acquired Pulmonary Artery Anomalies in the Adult: Radiologic Overview . *Radiographics* 2006.
292. Ussavarungsi K et al. Mosaic Pattern of Lung Attenuation on Chest CT in Patients with Pulmonary Hypertension. *Diseases* 2015/Kligerman SJ et al. Mosaic Attenuation: Etiology, Methods of Differentiation, and Pitfalls. *Radiographics* 2015
293. Porres DV et al. Learning from the Pulmonary Veins. *Radiographics* 2013
294. Foley RW et al. Computed tomography appearances of the lung parenchyma in pulmonary hypertension. *Brit J Radiol* 2020.
295. Castañer E et al. CT Diagnosis of Chronic Pulmonary Embolism. *Radiographics*.2009.
296. Hahn LD et al. Multidisciplinary Approach to Chronic Thromboembolic Pulmonary Hypertension: Role of Radiologists. *Radiographics* 2022
297. Figueroa MS. Congestive Heart Failure: Diagnosis, Pathophysiology, Therapy, and Implications for Respiratory Care . *Respiratory Care* 2006
298. Mc Murray JJ. Epidemiology, aetiology, and prognosis of heart failure . *Heart* 2000
299. Mosterd A et al. CLINICAL EPIDEMIOLOGY OF HEART FAILURE. *Heart* 2007
300. Stretti L et al. A year in heart failure: an update of recent findings. *ESC Heart Fail*. 2021
301. Nieminen MS et al. EuroHeart Failure Survey II (EHFS II): a survey on hospitalized acute heart failure patients: description of population. *Eur Heart J*. 2006.
302. Shanks SC, Kerley P.A text-book of x-ray diagnosis.1951
303. Sekar T. A beeline through Sir Peter James Kerley's life *AJR* 2011
304. Miger C et al. Chest computed tomography features of heart failure: A prospective observational study in patients with acute dyspnea . *Cardiology Journal* 2022 .
305. /Moore A. Acute Myocardial Infarct. *Radiol Clin N Am* . 2019/.
306. Cardinale L, et al. Revisiting signs, strengths and weaknesses of Standard Chest Radiography in patients of Acute Dyspnea in the Emergency Department. *J Thorac Dis* 2012
307. Handagala R et al. Unilateral pulmonary edema: a case report and review of the literature. *J Med Case Rep* .. 2018
308. Su W-X et al. Unilateral pulmonary oedema: a case report and literature review. *Journal of International Medical Research*. 2022
309. Higgins C. *Thoracic Imaging*. 2005
310. JH Woodring et al. Pneumothorax ex vacuo. *Chest*. 1996.
311. Cózar F et al. Edema de reexpansión pulmonar ¿mito o realidad? Reexpansion Pulmonary Edema: Myth or Reality? *Arch. Bronconeumol*. 2020.
312. Figueroa MS et al. Congestive Heart Failure: Diagnosis, Pathophysiology, Therapy, and Implications for Respiratory Care. *Respir Care* 2006

313. Gavelli G, Zampatori M. Thoracic complications in uremic patients....Radiol Clin N Am .1997
314. Gregorakos L, et al. Near-drowning: clinical course of lung injury in adults. Lung. 2009./Putnam CE et al. . Drowning: another plunge. AJR 1975/Gluecker T et al. Clinical and radiological features of pulmonary edema...Radiographics 1999
315. Meyer NJ et al. Acute respiratory distress síndrome. The Lancet 2021
316. Varona P et al. Learning from the Pulmonary Veins Radiographics 2013
317. Ibrahim NBN et al. Segmental pulmonary veno-occlusive disease secondary to lung cancer. J Clin Pathol 2005
318. Capewell SJ et al. Pulmonary veno-occlusive disease in association with Kodghin's disease. Thorax 1984
319. Saah H et al. Radiologic Manifestations of Pulmonary Vein Ablation Complications: A Pictorial Review . J Thorac Imaging 2012
320. Martí-Almor J et al. Pulmonary hemorrhage after cryoballoon ablation for pulmonary vein isolation in the treatment of atrial fibrillation. Chest 2014
321. Althomali SA et al. Phantom tumour of the lung in a patient with renal failure misdiagnosed as chest infection. BMJ Case Rep 2014
322. dos Santos DP et al. A Phantom Opacity on Chest Radiograph. Eur J Case Rep Intern Med. 2020.
323. Agrawal G et al. Miliary nodules due to secondary pulmonary hemosiderosis in rheumatic heart disease. World J Radiol 2011
324. Burkett A et al Diffuse pulmonary ossification as a rare cause of interstitial lung disease. Can Respir J 2014.