

# CONTENTS

<b>1</b>	<b>1</b>
<b>1.1 Forensic clinical anatomy of the thoracic and abdominal aorta</b> <i>Andrea Porzionato, Veronica Macchi, Raffaele De Caro</i>	<b>3</b>
<b>1.2 The aortopathies: classification and substrates</b> <i>Monica De Gaspari, Cristina Basso, Gaetano Thiene, Stefania Rizzo</i>	<b>13</b>
<b>1.3 Time: friend or foe? Importance of early diagnosis</b> <i>Marco Gemelli, Tea Lena, Chiara Zanon, Michele Gallo</i>	<b>26</b>
<b>2 TRADITIONAL DIAGNOSTIC METHODS</b>	<b>31</b>
<b>2.1 Physical examination and echocardiography</b> <i>Giovanni Barbati, Francesco Caprioglio</i>	<b>33</b>
<b>2.2 Imaging techniques and advanced imaging techniques</b> <i>Vincenzo Iurilli, Silvia Ceccato, Maria Caterina Iurilli, Mariacristina Maturi, Luca Spigolon, Matteo Todisco</i>	<b>43</b>
<b>3 NEW TECHNOLOGY AND AORTIC DISEASE</b>	<b>71</b>
<b>3.1 3D printing technology, virtual reality and artificial intelligence: clinical applications</b> <i>Martina Barzan, Christopher Carty, Claudio Pizzolato, Amelia Bai, Shuan Dai</i>	<b>73</b>
<b>3.2 Genetic bases and molecular diagnosis of hereditary thoracic aortic disease</b> <i>Valentina Fumini, Annapaola Calò, Leonardo Salviati</i>	<b>90</b>
<b>4 FUTURE DIRECTIONS</b>	<b>101</b>
<b>4.1 Bioprinting research in aortic diseases</b> <i>Giuseppe Astori, Angela Bozza</i>	<b>103</b>

4.2	Revolutionizing cardiac surgery training and simulation through 3D printing: a cutting-edge approach <i>Faizus Sazzad</i>	110
4.3	Mini-invasive/robotic treatment and aortic disease <i>Salvatore Poddi, Daniele Zoni, Loris Salvador, Paolo Magagna</i>	123
<b>5</b>	<b>ASPECTS FOR REFLECTION</b>	<b>133</b>
5.1	Private and criminal law of new technology	135
5.1.1	Private law <i>Mirko Faccioli</i>	135
5.1.2	Cybersecurity for artificial intelligence, medical device security and criminal law: first thoughts in the prism of European law <i>Roberto Flor</i>	142
5.2	Health technology assessment as a managerial tool for the adoption of innovative technologies <i>Stefano Landi, Chiara Leardini</i>	150
<b>6</b>	<b>CONCLUSIONS</b>	<b>165</b>
<b>7</b>	<b>ACKNOWLEDGEMENTS</b>	<b>167</b>
<b>8</b>	<b>SPONSORS</b>	<b>169</b>
8.1	SISMA S.p.A.	171
8.2	Stefanplast	174
8.3	ARIS ets	177