

Figura 1: Confronto tra IVUS ed OCT per la guida e l'ottimizzazione della PCI

IVUS	OCT
<p>Advantages</p> <ul style="list-style-type: none"> • Extensive clinical experience → IVUS has been used clinically for almost three decades • Pre-intervention imaging is possible in most patients without pre-dilation • Penetration to the adventitia allows mid-wall or true vessel stent sizing • Extensive research regarding impact of IVUS guidance of the procedural result as well as clinical outcomes • IVUS predictors of restenosis are well established • Better guidance for CTO techniques (e.g. wire re-entry) 	<p>Advantages</p> <ul style="list-style-type: none"> • 10× higher resolution compared with IVUS → OCT can detect fine details which are missed by IVUS (edge dissections, tissue coverage of stent struts, and malapposition that is below the resolution of IVUS) • Better tissue characterization (calcium) • Better suited for thrombus detection • Images are clearer and easier to interpret • OCT predictors of restenosis and stent thrombosis are well established • More user friendly due to rapid availability of reliable automatic analyses (i.e. accurate lumen profile)
<p>Disadvantages</p> <ul style="list-style-type: none"> • Images can be difficult to interpret • Tissue characterization is limited • Thrombus detection is challenging • Assessment of stent-strut tissue coverage not possible (low resolution) • Assessment of strut malapposition is limited • Low-resolution of the longitudinal view 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Additional contrast • Flushing is necessary to clear the lumen of blood to visualize the vessel wall • Pre-dilation may be necessary pre-intervention to allow blood to be flushed from the lumen • Limited penetration of OCT • Compared with IVUS, there is limited research evidence on OCT-guided vs. angiography-guided PCI with respect to surrogate endpoints and no RCT powered for clinical outcomes

Figura 2: Algoritmo di trattamento per guidare l'uso dell'imaging intravascolare nei pazienti che presentano con sindromi coronariche acute.

