

Table 2: Characteristics and Comparison of Percutaneous Right Ventricular Assist Devices

Percutaneous RVAD	Device Characteristics	Hemodynamic Effects		Advantages/Limitations
		<i>Isolated RV failure</i>	<i>Biventricular failure</i>	
Impella RP	-Inflow: RA, Outflow: PA -Axial flow -Flow: 2-4L/min	RAP: ↓ mPAP: ↑ PCWP: ↑ MAP: minimal effect Native CO: ↑	RAP: ↓ mPAP: ↑ PCWP: ↑↑ MAP: ↑ Native CO: minimal effect	<i>Advantages:</i> - Direct RV bypass - RV unloading and augmentation of native CO in isolated RV failure <i>Limitations:</i> - Large-bore access through femoral vein - No oxygenating capacity - In biventricular failure, in the absence of LVAD, increased LV preload
TandemHeart	-Inflow: RA, Outflow: PA -Extracorporeal centrifugal flow -Flow: 2-4L/min	RAP: ↓ mPAP: ↑ PCWP: ↑ MAP: minimal effect Native CO: ↑	RAP: ↓ mPAP: ↑ PCWP: ↑↑ MAP: ↑ Native CO: minimal effect	<i>Advantages:</i> - Direct RV bypass - Oxygenating capacity - RV unloading and augmentation of native CO in isolated RV failure <i>Limitations:</i> - Most common cannulation configuration is using the bilateral femoral veins - In biventricular failure, in the absence of LVAD, increased LV preload
ProtekDuo	-Inflow: RA, Outflow: PA -Extracorporeal centrifugal flow -Flow: 2-4L/min	RAP: ↓ mPAP: ↑ PCWP: ↑ MAP: minimal effect Native CO: ↑	RAP: ↓ mPAP: ↑ PCWP: ↑↑ MAP: ↑ Native CO: minimal effect	<i>Advantages:</i> - Direct RV bypass - Oxygenating capacity - RV unloading and augmentation of native CO in isolated RV failure - Internal jugular access, allowing patient to remain ambulatory <i>Limitations:</i> - In biventricular failure, in the absence of LVAD, increased LV preload
VA-ECMO	-Inflow: RA/venous system, Outflow: femoral arteries/arterial system -Extracorporeal centrifugal flow -Flow: 2-6L/min	RAP: ↓ mPAP: ↓ PCWP: ↓ MAP: ↑↑ Native CO: minimal ↓	RAP: ↓ mPAP: ↑ PCWP: ↑↑ MAP: ↑↑ Native CO: ↓	<i>Advantages:</i> - Cardiopulmonary support - Oxygenating capacity <i>Limitations:</i> - Indirect RV bypass - Increased LV afterload, which could require a 2 <sup>nd</sup> device for LV unloading - Large-bore arterial cannulation