

## **MEDICAL BREAKTHROUGHS** **RESEARCH SUMMARY**

TOPIC: NBA STAR GETS PTE FOR PULMONARY BLOOD CLOTS  
REPORT: **MB #5104**

**BACKGROUND:** CTEPH — or chronic thromboembolic pulmonary hypertension — is a rare, life-threatening medical condition typically caused by old blood clots in the lungs (pulmonary emboli). Most people who have suffered a blood clot can be treated with blood thinners to restore blood flow to the lungs, which helps improve their breathing and exercise tolerance. However, in others, blood clots might not dissolve and can lead to progressive right-sided heart failure and/or development of pulmonary hypertension (increased blood pressure in the lung). CTEPH has been estimated to occur in 0.1 to 0.5% of patients who survive an episode of PE, or pulmonary embolism, which equates to 500 to 2,500 annual cases in the United States alone. More recent data indicate that the incidence of CTEPH may be much higher than these studies suggest.

(Source: [https://www.upmc.com/services/pulmonology/conditions/cteph#:~:text=What%20is%20CTEPH%3F,the%20lungs%20\(pulmonary%20emboli\).](https://www.upmc.com/services/pulmonology/conditions/cteph#:~:text=What%20is%20CTEPH%3F,the%20lungs%20(pulmonary%20emboli).)  
<https://www.atsjournals.org/doi/full/10.1513/pats.200605-112LR#:~:text=CTEPH%20has%20been%20estimated%20to,higher%20than%20these%20studies%20suggest.>)

**DIAGNOSING:** Chronic thromboembolic pulmonary hypertension symptoms include chest pain or tightness, cyanosis (fingers and toes with a bluish tint), dizziness, fatigue, pounding in your chest (also known as heart palpitations), shortness of breath, especially during physical activity, and/or swollen legs due to fluid retention (edema). Your care may start with tests to check for signs of CTEPH. These include lung ventilation-perfusion scan (V/Q scan), pulmonary function tests, transthoracic echocardiogram (TTE), or an MRI.

(Source: <https://my.clevelandclinic.org/health/diseases/17635-chronic-thromboembolic-pulmonary-hypertension-cteph>)

**NEW TECHNOLOGY:** Pulmonary angiography remains the gold standard approach for the confirmation of the diagnosis and pre-surgical evaluation of CTEPH. New emerging technologies such as Dual-Energy Computed Tomography angiography (DECT) and Computed Tomography angiography (CTA) are developing and broadly available. These noninvasive methods provide diagnostic information similar to conventional pulmonary angiography and surgical operability information. They are to be considered as an alternative in the diagnostic approach of patients with CTEPH as presented in the ESC/ERS guidelines. Hemodynamic measurement whiles exercising during right heart catheterization may improve diagnostic sensitivity of CTEPH and could therefore be used as a diagnostic test in patient with normal hemodynamic at rest.

(Source: <https://pubmed.ncbi.nlm.nih.gov/28918335/#:~:text=Pulmonary%20angiography%20remains%20the%20gold,are%20developing%20and%20broadly%20available.>)

**FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:**

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**If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at [mthomas@ivanhoe.com](mailto:mthomas@ivanhoe.com)**