Welcome to today's overview where we'll be exploring controversies and advances in perfusion imaging and thrombectomy for ischemic stroke. This is based on insights from a recent medical debate, featuring experts like Dr. Frédéric Clarençon, Dr. Marios Psychogios, Dr. Achala Vagal, and professor Bruce Campbell.

These discussions focus on clinical questions that directly impact patient care, namely the evidence for and against profusion imaging as a tool for selecting stroke patients for endovascular therapy, our aim is to break down the debates, perspectives, evidence and implications for real world practice.

The transcript covers the benefits and limitations of profusion imaging analyses from major randomized trials and practical dilemmas in stroke systems worldwide. Ultimately, it asks, is profusion imaging a critical tool or an unnecessary complication in acute stroke treatment? Let's start with the debate on distal thrombectomy.

Dr. Frederic Clarencon highlighted three major trials examining thrombectomy for distal or medium vessel occlusions. All were neutral. There was no significant difference in outcomes between endovascular therapy and best medical treatment. Even more concerning, the thrombectomy groups had more than double the rate of symptomatic intracranial hemorrhage.

That's a stark result. Dr. Clarençon and also questioned the rationale for complicating selection with profusion imaging suggesting we don't have solid evidence on collaterals or reliable profusion mismatches in distal occlusions. He pointed out that classic core penumbra paradigms might not apply in these cases and cited issues with motion artifacts and variable software in real life profusion imaging.

On the other side, Dr. Marios Psychogios argued that profusion imaging actually increases sensitivity for detecting MeVOs medium vessel occlusions across various clinician types. Profusion helps spot occlusions that might otherwise go unnoticed, especially in time pressured settings. Importantly in hub and spoke systems.

Missing MeVOs at referring centers could mean some patients never get to a thrombectomy capable center. Right. But Dr. Psychogios did acknowledge the issues with current trials being neutral and the problem of cherry-picking candidates. Still, he made the case that profusion could allow for systematic inclusion in future studies and help use imaging endpoints beyond traditional clinical outcomes.

Moving to large vessel occlusions and the use of profusion, Dr. Achala Vagal pointed to recent large core trials and meta-analysis suggesting that CT and CT angiography alone provide robust guidance for thrombectomy. She noted profusion mismatch doesn't clearly tweak the treatment effect and mandating profusion can actually delay or exclude care in some settings.

But Professor Bruce Campbell countered that profusion isn't obsolete. It's especially valuable for quickly confirming large vessel occlusions in complex cases, differentiating acute from chronic disease, and facilitating honest discussions with families regarding prognosis, especially for very large core patients where expected outcomes can be quite limited.

The debate closed by emphasizing that while profusion may not be mandatory for every case, it's evolving as a targeted nuanced tool from detection and selection to prognostication and trial design. Stroke imaging will continue to adapt as our understanding and technology advances. To sum up distal thrombectomy remains uncertain with neutral evidence, but profusion imaging's role for MeVO detection and complex cases cannot be dismissed for large vessel occlusions.

CT and angiography may suffice yet. Perfusion offers guidance when things aren't clear cut ultimately as stroke systems and evidence evolve. So too, will our approach to imaging and treatment. Thanks for joining us in this critical discussion and overview of current controversies and directions in perfusion imaging.