

ASK THE EXPERTS

What Are the Biggest Hurdles Your Practice Has Faced in Integrating Renal Denervation?

Experts share practical insights on overcoming referral, reimbursement, and workflow barriers as RDN becomes part of routine hypertension care.

With Sundeep Kumar, MD; Jun Li, MD; Jay Giri, MD, MPH; and Eric A. Secemsky, MD, MSc



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The biggest challenge in establishing our renal denervation (RDN) program has probably been building a referral ecosystem and educating referring providers. The procedure itself is relatively straightforward for physicians who routinely perform catheter-based interventions. The larger challenge is creating a pathway that consistently identifies appropriate patients and helps referring providers understand where RDN fits within the overall management of hypertension.

As a developing RDN program, several themes have emerged that likely resonate with many early adopters. The issue of referral quality versus volume is foremost. One issue we encountered early was the difference

between uncontrolled hypertension and true resistant hypertension. Many referrals arrived simply because blood pressure remained elevated, but further evaluation often revealed medication nonadherence, suboptimal medication combinations, inadequate diuretic therapy, secondary causes of hypertension, or significant white coat effect. As a result, a substantial proportion of referred patients ultimately were not appropriate candidates for RDN.

Another recurring question involves where in the disease course RDN should be considered. Referrals frequently involve older patients with longstanding hypertension and established end-organ damage, yet there is increasing interest in whether selected patients might benefit from intervention earlier in the course of disease before years of uncontrolled blood pressure have accumulated. The optimal timing of intervention remains an evolving discussion.

Managing expectations, both for patients and referring providers, has been critical. Many patients initially view RDN as a cure for hypertension and hope to discontinue medications entirely. We spend considerable time discussing that the procedure is intended to achieve meaningful blood pressure reduction, but most patients will continue antihypertensive therapy after treatment. Establishing realistic expectations before the procedure has been important for both patient satisfaction and long-term confidence in the program.

Referral patterns also vary considerably by specialty. Nephrologists care for many patients with resistant hypertension and are therefore natural referral partners.

However, a significant number of these patients have advanced chronic kidney disease, unfavorable renal artery anatomy, or other factors that may limit procedural eligibility. Primary care physicians, on the other hand, manage a much larger population of potentially eligible patients but are often less familiar with RDN and appropriate referral criteria. This has made provider education a critical component of program development.

Perhaps the most important takeaway is positioning RDN within a comprehensive hypertension program rather than building the program around the procedure itself. Referring physicians are often more comfortable

sending patients when they know every referral will receive a thorough hypertension evaluation, even if RDN is ultimately not recommended. Many patients derive benefit from ambulatory blood pressure monitoring, medication optimization, evaluation for secondary hypertension, lifestyle counseling, or subspecialty consultation alone. Ultimately, the biggest challenge in establishing an RDN program is not performing the procedure, but developing a trusted referral pathway that consistently identifies appropriate patients, aligns expectations, and delivers value even when RDN is not ultimately performed.



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The integration of RDN into routine clinical workflows remains heavily restricted by financial friction points that complicate administrative and operational execution. More than 2 years after FDA approval, the economic reality for facilities and operators is defined by thin margins and highly variable payer behavior. Navigating these obstacles requires a coordinated approach across clinical teams, supply chains, and hospital finance departments.

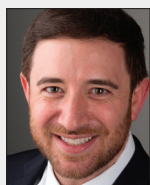
The primary operational hurdle rests within hospital revenue cycles and billing architectures. Although the transitional pass-through (TPT) codes provide an

incremental payment pathway for Medicare fee-for-service patients, achieving this reimbursement requires absolute precision. Hospital billing systems must reliably link the procedure code (CPT 0338T or 0339T) with the specific device supply codes, C1735 for radio-frequency or C1736 for ultrasound catheters. Missing this correlation causes the claim to map exclusively to the base Ambulatory Payment Classification (APC 5192), which reimburses well under the baseline device cost and leaves the case significantly margin-negative. Compounding this risk are documented administrative cash-flow delays. Because TPT amounts are evaluated case-by-case based on unique cost-to-charge ratios rather than static schedules, claims often trigger lengthy revenue cycle audits and delayed payouts.

Beyond traditional Medicare, nontraditional and private insurance landscapes present severe roadblocks. While Medicare Advantage plans are technically mandated by statute to cover the procedure with proper clinical documentation, commercial insurers frequently issue reflex rejections. Overturning these denials

demands substantial clinician administrative time to submit multi-tiered appeals. For purely commercial, privately insured patients, the financial landscape is highly unpredictable. When authorization is denied or processed outside of TPT pathways, facilities are forced to absorb steep financial losses, prompting many supply chain committees to restrict RDN access to a highly select, preapproved patient volume.

Finally, operator-specific alignment is hindered by an unfavorable professional fee structure. Because RDN continues to be billed under category III CPT codes (0338T/0339T), it lacks established relative value units. This shifts the burden of professional fee pricing directly to individual Medicare administrative contractors and private payers. Interventionalists face highly variable compensation for a complex, specialized procedure that demands intense preprocedural screening, intraprocedural roadmapping, and long-term follow-up. Without predictable, standardized professional reimbursement, local operators face diminishing returns on the time and clinical effort required to build a dedicated RDN program.



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Integration of RDN into my clinical practice has evolved significantly since our commercial program launched after FDA approval of RDN in November 2023. Our initial hypertension pathway for patients with uncontrolled blood pressure was immediately busy with referrals. However, many of these patients had never heard of RDN, nor had the referring doctors. As such, we spent substantial time working on educating about the risks and benefits of RDN in parallel with trialing medications and controlling secondary causes. The overall result

of this was a long delay and many follow-up visits before RDN was considered. This was also occurring in the background of a challenging reimbursement climate for RDN, overall slowing the growth of our program.

Now it is over 2 years later, and our RDN pipeline has changed significantly. With more data being published and presented, American College of Cardiology/American Heart Association guideline adoption, and the Centers for Medicare & Medicaid Services (CMS) National Coverage Determination (NCD), our patients are now coming into our hypertension clinic more prepared for RDN and with greater awareness. Patients and their referring providers are becoming more familiar with the procedure and have seen our safety and efficacy results from our local program. This has resulted in a large influx of patients being referred for consultation, as well as faster time from the clinic to the procedure lab. We have not changed our approach regarding optimizing their medical regimen and ruling out secondary uncontrolled causes, but the comfort with RDN is noticeably different and patients appear keener to choose RDN before starting additional agents once on three or more medications. Couple this with an easing reimbursement climate stemming from the CMS NCD, our year is already looking very different than years past and we see a bright future for RDN at our institution. ■