

SAMPLE LETTER OF MEDICAL NECESSITY/APPEAL OF CLAIM DENIAL

<date>

<Insurance company name>

<insurance company address>

Re: Payment for Intravascular Ultrasound Evaluation of <insert diagnosis>

Patient Name: <patients name>

Insurance ID: <patient's insurance ID number>

Dear Sir or Madam,

I am requesting professional fee payment for clinical services described by CPT 37252: *Intravascular ultrasound during diagnostic evaluation and/or therapeutic intervention, including radiological supervision and interpretation; initial non-coronary vessel* <if used, also insert **"and CPT 37253: Intravascular ultrasound during diagnostic evaluation and/or therapeutic intervention, including radiological supervision and interpretation; each additional non-coronary vessel"**>.

My patient.....<insert case notes as appropriate to support diagnosis and treatment>

There is a growing body of evidence suggesting the clinical benefits of using IVUS in hemodialysis AV access. A paper by Davidson¹ described 38 consecutive procedures on 28 patients who underwent IVUS after percutaneous transluminal angioplasty (PTA) of arteriovenous (AV) fistulas. Patients were referred for diagnostic fistulogram and PTA due to symptomatic venous obstruction (edema, prior thrombosis, poor fistula blood flow, or elevated venous dialysis pressure). Intraluminal thrombus was detected by IVUS in 6/38 (16%) of interventions, but in just 1/38 (3%) by angiography (per Table 1 from Davidson) kappa = 0.28; p < 0.001). Dissections were detected in 16/38 (42%) by IVUS as compared to 1/38 (3%) by angiography (per Table 2 from Davidson) kappa = 0.09; p = 0.22). [Note: p-values for thrombus and dissection appear to be transposed; however, they are presented herein as they are provided in the publication.] A limitation of IVUS in this setting relates to the lack of arterial tri-layered anatomy (intima, media, and adventitia) for venous AV fistula lesions; thus, definition of intraluminal venous anatomy may be subject to a greater degree of observer variability. Based on the findings of this study, the authors concluded that IVUS in conjunction with angiography was more sensitive in detecting intraluminal thrombus and dissection as compared to angiography alone. They suggest that mechanisms of successful angioplasty of AV fistula stenoses are vessel stretching and dissection, and that significant post-PTA narrowing is due to elastic recoil.

A study by Higuchi² summarized data from 63 stenoses affecting 40 hemodialysis patients, all of whom were undergoing initial treatment for a native AV fistula. Indications for PTA were: insufficient blood flow (<200 mL/min during dialysis), increased venous pressure (>150 mmHg during dialysis), and development of arm edema. Comparison of pre- vs. post-PTA imaging showed that IVUS was able to quantify the improvement in luminal and external elastic membrane diameters (major and minor) and cross-sectional areas, as well as cross-sectional percent narrowing. Plaque fractures were detected in 45/63 (71%) of lesions post-PTA in the area of prior stenosis; hence, the authors suggest that the mechanism of PTA expansion of stenotic hemodialysis fistulas involves stretching of the vessel wall as well as plaque fractures. There were no complications associated with IVUS imaging.

A study by Arbab-Zadeh³ et al evaluated the safety, feasibility, and accuracy of IVUS as a tool for AV graft assessment. The authors reported on 54 vessel segments from 21 studies in 17 patients who had both IVUS and angiography performed on the same day. There were no adverse effects of using IVUS imaging in any subject. IVUS detected more vascular abnormalities than angiography; in particular, IVUS was found to be adequate/suitable in detecting thrombus. Given that residual thrombus is known to be thrombogenic, the authors suggest that IVUS, after additional clinical studies, may prove useful in the assessment of failing AV grafts which “may help increase graft patency and reduce cost.” Study limitations included potential inaccuracies related to non-uniform rotational velocity (for cases in which rotating IVUS probes were used), and that comparisons between angiography and IVUS were performed up to 6 hours apart. Abnormalities such as thrombus formation could have developed during this interval and therefore influenced results; however, there was no statistical difference in findings obtained by both modalities between the studies performed simultaneously and those performed separately. The authors conclude: “our study suggests that IVUS imaging for the assessment of vascular access in dialysis patients is feasible and safe, both in the radiology suite and dialysis unit. IVUS not only detected findings obtained by angiography, but also yielded additional information, which may help understand, reduce, and prevent common vascular access problems... Further investigations are necessary to define the role of IVUS in this setting; in particular, whether the greater sensitivity in detecting vascular abnormalities translates into cost effective clinical benefit.”

In a retrospective single-center case series of 12 patients by DeGraaf⁴, both digital subtraction angiography (DSA) and intravascular ultrasound (IVUS) imaging were performed in the same session to determine the degree of upper extremity central venous obstruction (CVO). After initial treatment with percutaneous transluminal angioplasty (PTA), conventional DSA showed persistent significant stenosis (>50% luminal reduction) in 3 out of 12 patients. IVUS revealed that significant stenosis was present in all 12 patients; furthermore, IVUS showed signs of intraluminal fibrotic trabeculations in 9 patients. Stenting was performed in 10 patients with >50% lumen reduction based on IVUS findings. The authors conclude: “Conventional angiography seems unreliable to identify all significant aspects of a central venous outflow obstruction. Additional use of IVUS might aid in the decision-making process and select the optimal treatment strategy.”

I hope the information in this letter has clarified why, based on published scientific evidence and in my clinical opinion, the use of IVUS was medically necessary for appropriately diagnosing and guiding the treatment of my patient’s <insert diagnosis>. I respectfully request that this claim be approved for payment. If you require any additional information, please feel free to contact me at the address and telephone number below.

Best Regards,

<Treating Physicians Name>

<Treating Physicians Address>

<Treating Physicians Telephone>

¹ Davidson CJ, Newman GE, Sheikh KH, et al. Mechanisms of angioplasty in hemodialysis fistula stenoses evaluated by intravascular ultrasound. *Kidney International* 1991; 40:91-5.

² Higuchi T, Okuda N, Aoki K, et al. Brief report: intravascular ultrasound imaging before and after angioplasty for stenosis of arteriovenous fistulae in hemodialysis patients. *Nephrol Dial Transplant* 2001; 16:151-5.

³Arbab-Zadeh A, Mehta RL, Ziegler RW, et al. Hemodialysis access assessment with intravascular ultrasound. American Journal of Kidney Diseases 2002; 39(4):813-23.

⁴ de Graaf R, van Laanen J, Peppelenbosch N, van Loon M, and Tordoir J. The value of intravascular ultrasound in the treatment of central venous obstructions in hemodialysis patients. J Vasc Access 2016;17(Suppl 1):S12-S15.

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