Iliac Artery Occlusive Disease
EVIDENCE TABLE

Reference	Study Type	Patients/ Events	Study Problem (Purpose of Study)	Study Results	Strength of Evidence
1. Working Party on Thrombolysis in the Management of Limb Ischemia. Thrombolysis in the management of lower limb peripheral arterial occlusion--a consensus document. *J Vasc Interv Radiol* 2003; 14(9 Pt 2):S337-349.	15 (consensus document)	N/A	To develop a consensus on the use of thrombolytic therapy in lower limb peripheral arterial occlusion.	Thrombolytic agents should be approved for intra-arterial therapy of acute lower extremity ischemia	3
2. Hirsch AT, Haskal ZJ, Hertzer NR, et al. ACC/AHA Guidelines for the Management of Patients with Peripheral Arterial Disease (lower extremity, renal, mesenteric, and abdominal aortic): a collaborative report from the American Associations for Vascular Surgery/Society for Vascular Surgery, Society for Cardiovascular Angiography and Interventions, Society for Vascular Medicine and Biology, Society of Interventional Radiology, and the ACC/AHA Task Force on Practice Guidelines (writing committee to develop guidelines for the management of patients with peripheral arterial disease)--summary of recommendations. *J Vasc Interv Radiol* 2006; 17(9):1383-1397; quiz 1398.	15 (guideline)	N/A	Guidelines.	N/A	N/A
3. Norgren L, Hiatt WR, Dormandy JA, et al. Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II). *Eur J Vasc Endovasc Surg* 2007; 33 Suppl 1:S1-75.	15 (consensus document)	N/A	To develop a consensus on the main aspects of diagnosis and management of peripheral arterial disease.	Good practice is dependent on a combination of the scientific evidence, patients' preferences, and local availability of facilities and trained professionals.	2
4. Ouriel K, Castaneda F, McNamara T, et al. Reteplase monotherapy and reteplase/abciximab combination therapy in peripheral arterial occlusive disease: results from the RELAX trial. *J Vasc Interv Radiol* 2004; 15(3):229-238.	3a	74	Prospective study to examine reteplase monotherapy and reteplase/abciximab combination therapy in peripheral arterial occlusive disease (PAOD).	No significant differences in safety or efficacy for range of reteplase doses. Addition of intravenous abciximab to reteplase was associated with a decreased rate of distal embolic events.	2
5. Tepe G, Hopfenzitz C, Dietz K, et al. Peripheral arteries: treatment with antibodies of platelet receptors and reteplase for thrombolysis--APART trial. *Radiology* 2006; 239(3):892-900.	1	120	Prospective study to compare the safety and efficacy of combination therapy with the glycoprotein IIb/IIIa antagonist abciximab plus the third-generation thrombolytic agent reteplase vs those of therapy with the standard thrombolytic agent urokinase plus abciximab.	Therapeutic success did not differ between the groups.	1

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6. Wissgott C, Richter A, Kamusella P, Steinkamp HJ. Treatment of critical limb ischemia using ultrasound-enhanced thrombolysis (PARES Trial): final results. *J Endovasc Ther* 2007; 14(4):438-443.	3a	25	To evaluate treatment of limb ischemia using US-enhanced thrombolysis.	Local lysis of acute arterial occlusions using the Lysus Peripheral Catheter System is safe and effective.	3
7. Kasirajan K, Gray B, Beavers FP, et al. Rheolytic thrombectomy in the management of acute and subacute limb-threatening ischemia. *J Vasc Interv Radiol* 2001; 12(4):413-421.	4	86	Retrospective analysis to evaluate the use of a percutaneous mechanical thrombectomy (PMT) catheter (AngioJet) as an initial treatment for acute and subacute arterial occlusion of the limbs.	PMT may be the only available treatment option in patients at high risk for open surgery or with contraindications to pharmacologic thrombolysis.	2
8. Berridge DC, Kessel D, Robertson I. Surgery versus thrombolysis for acute limb ischaemia: initial management. *Cochrane Database Syst Rev* 2000; (4):CD002784.	13	N/A	Review to determine whether surgery or thrombolysis is the preferred option in the initial treatment of acute limb ischaemia.	No overall difference in limb salvage at 1-year between initial surgery and initial thrombolysis, however, thrombolysis may be associated with a higher risk of ongoing limb ischaemia.	3
9. Ouriel K, Veith FJ, Sasahara AA. A comparison of recombinant urokinase with vascular surgery as initial treatment for acute arterial occlusion of the legs. Thrombolysis or Peripheral Arterial Surgery (TOPAS) Investigators. *N Engl J Med* 1998; 338(16):1105-1111.	1	272 per group	Comparison of vascular surgery with recombinant urokinase to determine effective initial treatment for acute arterial occlusion of the legs.	Intra-arterial infusion of urokinase reduced the need for open surgical procedures, without large increase in risk of amputation or death.	1
10. Beyersdorf F, Matheis G, Kruger S, et al. Avoiding reperfusion injury after limb revascularization: experimental observations and recommendations for clinical application. *J Vasc Surg* 1989; 9(6):757-766.	13	61 hind limps	To test hypothesis that reperfusion injury is the cause of limb loss after acute arterial occlusion.	Study shows that 4-hours of room-temperature ischemia does not produce irreversible damage of the hind limb.	3
11. Nehler MR, Mueller RJ, McLafferty RB, et al. Outcome of catheter-directed thrombolysis for lower extremity arterial bypass occlusion. *J Vasc Surg* 2003; 37(1):72-78.	3a	104	Retrospective study to determine the outcome of patients undergoing catheter-directed thrombolysis (CDT) for lower extremity arterial bypass (LEAB) occlusion.	Recurrent LEAB occlusions lead to morbidity, but LEAB replacement has substantial problems associated with limited conduit, re-operative anatomy, and subsequent wound complications.	2
12. Galaria, II, Davies MG. Percutaneous transluminal revascularization for iliac occlusive disease: long-term outcomes in TransAtlantic Inter-Society Consensus A and B lesions. *Ann Vasc Surg* 2005; 19(3):352-360.	13	276	Retrospective analysis to examine the long-term outcomes of TransAtlantic Inter-Society Consensus (TASC) A and B lesions.	Endoluminal iliac intervention for TASC A and B lesions is safe in patients with good femoral and tibial runoff.	2

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13. de Vries SO, Hunink MG. Results of aortic bifurcation grafts for aortoiliac occlusive disease: a meta-analysis. *J Vasc Surg* 1997; 26(4):558-569.	11	23 studies	Summary of aortofemoral bypass graft procedures in aortoiliac occlusive disease.	Mortality and systemic morbidity rates of graft procedures have dropped since 1975, while patency rates are constant over the years.	2
14. Timaran CH, Prault TL, Stevens SL, Freeman MB, Goldman MH. Iliac artery stenting versus surgical reconstruction for TASC (TransAtlantic Inter-Society Consensus) type B and type C iliac lesions. *J Vasc Surg* 2003; 38(2):272-278.	3a	188	To evaluate the influence of risk factors by comparing iliac artery stenting (IAS) with surgical reconstruction for TASC B and C iliac lesions.	Poor infrainguinal runoff is the risk factor for decreased primary patency after surgical reconstruction and iliac stenting, but primary patency is less affected by poor runoff in patients undergoing surgical procedures.	2
15. Steinkamp H, Werk M, Wissgott C, et al. Stent placement in short unilateral iliac occlusion. Technique and 24-month results. *Acta Radiol* 2001; 42(5):508-514.	3a	90	To determine outcome of stent placement in short unilateral iliac occlusion.	Stent implantation is an effective treatment for short iliac obstructions.	3
16. Uher P, Nyman U, Lindh M, Lindblad B, Ivancev K. Long-term results of stenting for chronic iliac artery occlusion. *J Endovasc Ther* 2002; 9(1):67-75.	3a	73	Retrospective studies to evaluate long-term results of stenting for chronic iliac artery occlusion.	Stenting is a safe and durable alternative to surgical treatment.	3
17. Balzer JO, Gastinger V, Ritter R, et al. Percutaneous interventional reconstruction of the iliac arteries: primary and long-term success rate in selected TASC C and D lesions. *Eur Radiol* 2006; 16(1):124-131.	3a	89	To report results of patients with selected TASC C and D lesions of the iliac arteries after percutaneous interventional reconstruction.	Success rate 96.9%. Overall complication rate 5.6%. Percutaneous intervention is recommended.	3
18. Leville CD, Kashyap VS, Clair DG, et al. Endovascular management of iliac artery occlusions: extending treatment to TransAtlantic Inter-Society Consensus class C and D patients. *J Vasc Surg* 2006; 43(1):32-39.	13	89	To review the outcomes and durability of recanalization, percutaneous transluminal angioplasty (PTA), and stenting for iliac occlusions based on the patient's TASC stratification.	Recanalization and PTA/stenting was technically successful in 84 (91%) of 92 procedures.	2
19. Hassen-Khodja R, Sala F, Declemy S, Bouillanne PJ, Batt M, Staccini P. Value of stent placement during percutaneous transluminal angioplasty of the iliac arteries. *J Cardiovasc Surg (Torino)* 2001; 42(3):369-374.	3c	250	Retrospective analysis to determine value of stent placement during PTA of the iliac arteries.	Stents were an effective means for treatment, but there were significant differences in the long term results between PTA alone and PTA with selective stent placement.	1
20. Klein WM, van der Graaf Y, Seegers J, et al. Dutch iliac stent trial: long-term results in patients randomized for primary or selective stent placement. *Radiology* 2006; 238(2):734-744.	1	279	To determine long-term results of the prospective Dutch Iliac Stent Trial.	Patients treated with PTA and selective stent placement had a better symptomatic success compared with patients treated with primary stent placement.	1

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21. AbuRahma AF, Hayes JD, Flaherty SK, Peery W. Primary iliac stenting versus transluminal angioplasty with selective stenting. *J Vasc Surg* 2007; 46(5):965-970.	3a	110	To compare clinical outcomes of primary iliac stenting with selective stenting.	Primary stent group had superior clinical success rate.	2
22. Kudo T, Chandra FA, Ahn SS. Long-term outcomes and predictors of iliac angioplasty with selective stenting. *J Vasc Surg* 2005; 42(3):466-475.	13	104	To review long-term outcomes and predictors of iliac angioplasty with selective stenting.	• Assisted primary and secondary patency rates were excellent without primary stenting. • >70% of iliac lesions were treated successfully with PTA alone. • Selective stenting offers satisfactory assisted primary and secondary long-term patency after iliac angioplasty.	2
23. Park KB, Do YS, Kim DI, et al. The TransAtlantic InterSociety Consensus (TASC) classification system in iliac arterial stent placement: long-term patency and clinical limitations. *J Vasc Interv Radiol* 2007; 18(2):193-201.	13	218	Retrospective analysis to evaluate long-term patency of iliac arterial stent placement according to TASC stages and demonstrate the limitations of TASC classification for iliac arterial disease.	Patency of stent placement did not show statistically significant difference among TASC stages.	2
24. Bosiers M, Iyer V, Deloose K, Verbist J, Peeters P. Flemish experience using the Advanta V12 stent-graft for the treatment of iliac artery occlusive disease. *J Cardiovasc Surg (Torino)* 2007; 48(1):7-12.	3a	65 patients 91 limps	Prospective study to evaluate the possibility and safety of implanting a polytetrafluoroethylene (PTFE) covered balloon expandable stent to treat iliac artery occlusive disease.	Implantation of PTFE is safe and feasible.	3
25. Wiesinger B, Beregi JP, Oliva VL, et al. PTFE-covered self-expanding nitinol stents for the treatment of severe iliac and femoral artery stenoses and occlusions: final results from a prospective study. *J Endovasc Ther* 2005; 12(2):240-246.	3a	98	Prospective study to evaluate the technical performance, safety, and efficacy of PTFE-covered nitinol stents in the treatment of atherosclerotic iliac and superficial femoral artery (SFA) disease.	Implantation of PTFE-covered nitinol stents is feasible, safe, and effective, with excellent 1-year patency.	3
26. Kudo T, Rigberg DA, Reil TD, Chandra FA, Ahn SS. The influence of the ipsilateral superficial femoral artery on iliac angioplasty. *Ann Vasc Surg* 2006; 20(4):502-511.	3a	127 patients 183 lesions	Retrospective studies to evaluate the impact of the ipsilateral SFA on iliac angioplasty.	SFA angioplasty might improve iliac patency after iliac PTA for patients with stenotic SFAs.	2
27. Timaran CH, Stevens SL, Freeman MB, Goldman MH. Infrainguinal arterial reconstructions in patients with aortoiliac occlusive disease: the influence of iliac stenting. *J Vasc Surg* 2001; 34(6):971-978.	3c	105	To estimate the influence of previous IAS for iliac occlusive disease on the outcome of infrainguinal arterial reconstructions (IAR) compared with those after Iliac artery angioplasty (IAA) alone.	IAR in patients with IAS have significantly improved graft patency, compared with those in patients with IAA alone.	2

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28. Nelson PR, Powell RJ, Schermerhorn ML, et al. Early results of external iliac artery stenting combined with common femoral artery endarterectomy. *J Vasc Surg* 2002; 35(6):1107-1113.	13	34	Retrospective analysis to report results of external IAS combined with femoral artery endarterectomy.	• External iliac artery stenting and endarterectomy allows for more localized surgery than conventional bypass. • Excellent technical success and early patency rates.	3
29. Aburahma AF, Robinson PA, Cook CC, Hopkins ES. Selecting patients for combined femorofemoral bypass grafting and iliac balloon angioplasty and stenting for bilateral iliac disease. *J Vasc Surg* 2001; 33(2 Suppl):S93-99.	3a	41	To examine the selection of patients for combined femorofemoral bypass grafting and iliac balloon angioplasty and stenting for bilateral iliac disease.	Combined use of iliac balloon angioplasty and stenting and femorofemoral bypass grafting is effective and can be performed simultaneously if stenosis length is 5 cm or less.	3
30. Timaran CH, Stevens SL, Freeman MB, Goldman MH. External iliac and common iliac artery angioplasty and stenting in men and women. *J Vasc Surg* 2001; 34(3):440-446.	3a	189	Retrospective study to estimate the effect of the anatomic location of stenting on the outcome of iliac angioplasty and stent placement in men and women.	Women undergoing external iliac artery angioplasty with stent placement have reduced primary patency rates, while men have a more favorable outcome.	2
31. Timaran CH, Stevens SL, Grandas OH, Freeman MB, Goldman MH. Influence of hormone replacement therapy on the outcome of iliac angioplasty and stenting. *J Vasc Surg* 2001; 33(2 Suppl):S85-92.	3a	88	Retrospective studies to estimate the influence of risk factors on the outcome of women undergoing iliac angioplasty and stent placement.	Reduced patency rates for women undergoing iliac angioplasty with stent placement who are taking hormone replacement therapy.	3

Evidence Table Key

Study Type Key

Numbers 1-7 are for studies of therapies while numbers 8-15 are used to describe studies of diagnostics.

1. Randomized Controlled Trial — Treatment
2. Controlled Trial
3. Observation Study
    a. Cohort
    b. Cross-sectional
    c. Case-control
4. Clinical Series
5. Case reviews
6. Anecdotes
7. Reviews

8. Randomized Controlled Trial — Diagnostic
9. Comparative Assessment
10. Clinical Assessment
11. Quantitative Review
12. Qualitative Review
13. Descriptive Study
14. Case Report
15. Other (Described in text)

Strength of Evidence Key

- Category 1 - The conclusions of the study are valid and strongly supported by study design, analysis and results.
- Category 2 - The conclusions of the study are likely valid, but study design does not permit certainty.
- Category 3 - The conclusions of the study may be valid but the evidence supporting the conclusions is inconclusive or equivocal.
- Category 4 - The conclusions of the study may not be valid because the evidence may not be reliable given the study design or analysis.