



Guidelines

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Guidelines

Traduction Harraps

Indications, conseils, directive, ligne de conduite

Recommandations

Aide à la pratique

Guidelines

- Edités par les Sociétés Savantes
- Ecrits par un groupe « d' experts »
- Basés sur l' analyse de la littérature

Guidelines : Méthodologie niveau de preuve

Level of Evidence A	Data derived from multiple randomised clinical trials or meta-analyses
Level of Evidence B	Data derived from a single randomised clinical trial or large non-randomised studies
Level of Evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries

Guidelines : Méthodologie

Classe de Recommandation

Class I	Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective
Class II	Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure
<i>Class IIa</i>	<i>Weight of evidence/opinion is in favour of usefulness/efficacy</i>
<i>Class IIb</i>	<i>Usefulness/efficacy is less well established by evidence/opinion</i>
Class III	Evidence or general agreement that the given treatment or procedure is not useful/effective, and in some cases may be harmful

Guidelines

- **Points forts** : EBM , consensus
- **Points faibles** : ne peut répondre à toutes les situations cliniques
ne prends pas en compte les dernières évolutions médicales : imagerie, technologie etc.

Guidelines

- Aide à la pratique
- Mais la décision finale repose sur le jugement et le bon sens du praticien



Eur J Vasc Endovasc Surg (2018) 55, 3–81

Editor's Choice — Management of Atherosclerotic Carotid and Vertebral Artery Disease: 2017 Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS)

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Keywords: Carotid, Vertebral, Stroke, Transient ischaemic attack, Endarterectomy, Stenting, Medical therapy, Screening, Dementia, Asymptomatic, Symptomatic, Thrombolysis, Imaging, Bypass, Surgical techniques, Complications, Patch infection, Restenosis

476 articles analysés , 118 recommandations

Quelques points

AVC en Europe : 1.4 million/an

38 billion euros

AIT *WHO définition*

Clinique : durée du déficit < 24 heures

AHA définition

Abscence de Perte Tissulaire

IRM pas de signe d'infarctus

Quelques points

- Origine des AVC ischémiques
 - 25 % carotide**
 - 25 % petites artères
 - 20 % embolie cardiaque
 - 30 % autre ou inconnue

Imagerie

Recommendation 1	Class	Level	References
Duplex ultrasound (as first-line), computed tomographic angiography or magnetic resonance angiography for extra-intracranial carotid stenoses	I	A	18
1 Echo Doppler première intention / puis CT ou IRM			
Recommendation 2			
When carotid endarterectomy is being considered, it is recommended that the degree of stenosis be confirmed by revascularisation procedures such as transcranial doppler, duplex ultrasound, computed tomographic angiography or magnetic resonance angiography.	I	A	18
2 SI TEA envisagée compléter ED par CT ou IRM par Echo doppler par un 2eme opérateur			
Recommendation 3			
Where CAS is being considered, confirmation of stenosis measurement should state which measurement method is being used.			12,14
3 Si CAS : Echo doppler + CT ou IRM Pour évaluer Arche aortique et Intra crânien			
Recommendation 4			
The method of measurement should be specified in patients being considered for revascularisation, unless there are significant discrepancies on non-invasive imaging.			
4 La méthode de mesure NASCET ou ECST doit être précisée			

Traitement médical optimal

Recommendation 8	Class	Level	References
8 Mener une vie saine , régime, tabac, activité physique			
Recommendation 9	Class	Level	References
Low-dose aspirin (75-325 mg daily) should be considered in patients with asymptomatic carotid stenosis.			29,34
9/10 Aspirine 75-325 mg			
Clopidogrel si intolérance a l' aspirine			
Recommendation 10			
Clopidogrel 75 mg daily should be considered in asymptomatic carotid stenosis patients if aspirin intolerant.			
Recommendation 11	Class	Level	References
Statin therapy is recommended for long-term prevention of stroke, myocardial infarction and other vascular events in patients with asymptomatic carotid stenosis.	I	A	36–39
11 Statines			
Recommendation 12	Class	Level	References
Antihypertensive treatment is recommended for patients with hypertension and asymptomatic extracranial internal carotid artery stenoses to maintain long-term blood pressure <140/90 mmHg.		A	45,47
12 TA < 140/90 mm Hg			

Quand intervenir chez un patient asymptomatique ?

Recommendation 17	Class	Level	References
In “average surgical risk” patients with an asymptomatic 60–99% stenosis, carotid endarterectomy should be considered in the presence of one or more imaging characteristics that may be associated with an increased risk of late ipsilateral stroke, ^a provided documented perioperative stroke/death rates are <3% and the patient’s life expectancy exceeds 5 years	Ila	B	13,35,54,84–94,96,97

- 17 Sténose entre 60 et 90 %**
- 1) signes de risque d’ AVC ***
 - 2) espérance de vie > 5 ans**
 - 3) chirurgien a un TCMM < 3%**

Quand intervenir chez un patient asymptomatique ?

Recommendation 17

In "average surgical risk" patients with 60–99% stenosis, carotid endarterectomy is considered in the presence of characteristics that may increase the risk of late ipsilateral stroke or perioperative stroke/death if life expectancy exceeds

- Surface de la Plaque (x 5,8)
- Hémorragie sous plaque (X 4)
- Plaque hypo-échogène (x 3)
- Retentissement hémodynamique (x 6)
- Sténose évolutive (x 2)
- Infarctus silencieux (x 3,6)
- Embols au Trans Crânien (x 10)
- AIT ou AVC controlatéral (x 3)

References

35, 54, 84–94, 97

Sténose carotidienne et Fonction Cognitive

Recommendation 20	Class	Level	References
Until a causal association between severe asymptomatic carotid stenoses and cognitive decline has been established, carotid interventions are not recommended for the prevention of cognitive impairment in patients with severe asymptomatic carotid stenoses	III	B	118,119

Quel patient symptomatique opérer ?

Recommendation 35	35 Sténose 70-99 % TCMM < 6%	Level	References
Carotid endarterectomy is recommended for patients with recent ipsilateral carotid territory symptoms within the past 6 months and who have a 70–99% carotid stenosis, provided the documented procedural death/stroke rate is <6%		A	172–174,205
Recommendation 36	36 Sténose 50-69 % TCMM < 6 %		
Carotid endarterectomy should be considered for patients with recent ipsilateral carotid territory symptoms within the past 6 months and who have a 50–69% carotid stenosis, provided the documented procedural death/stroke rate is <6%		A	172–174,205
Recommendation 37			
It is recommended that patients aged >70 years with recent ipsilateral carotid territory symptoms who have not been treated by carotid endarterectomy, rather than carotid stenting			

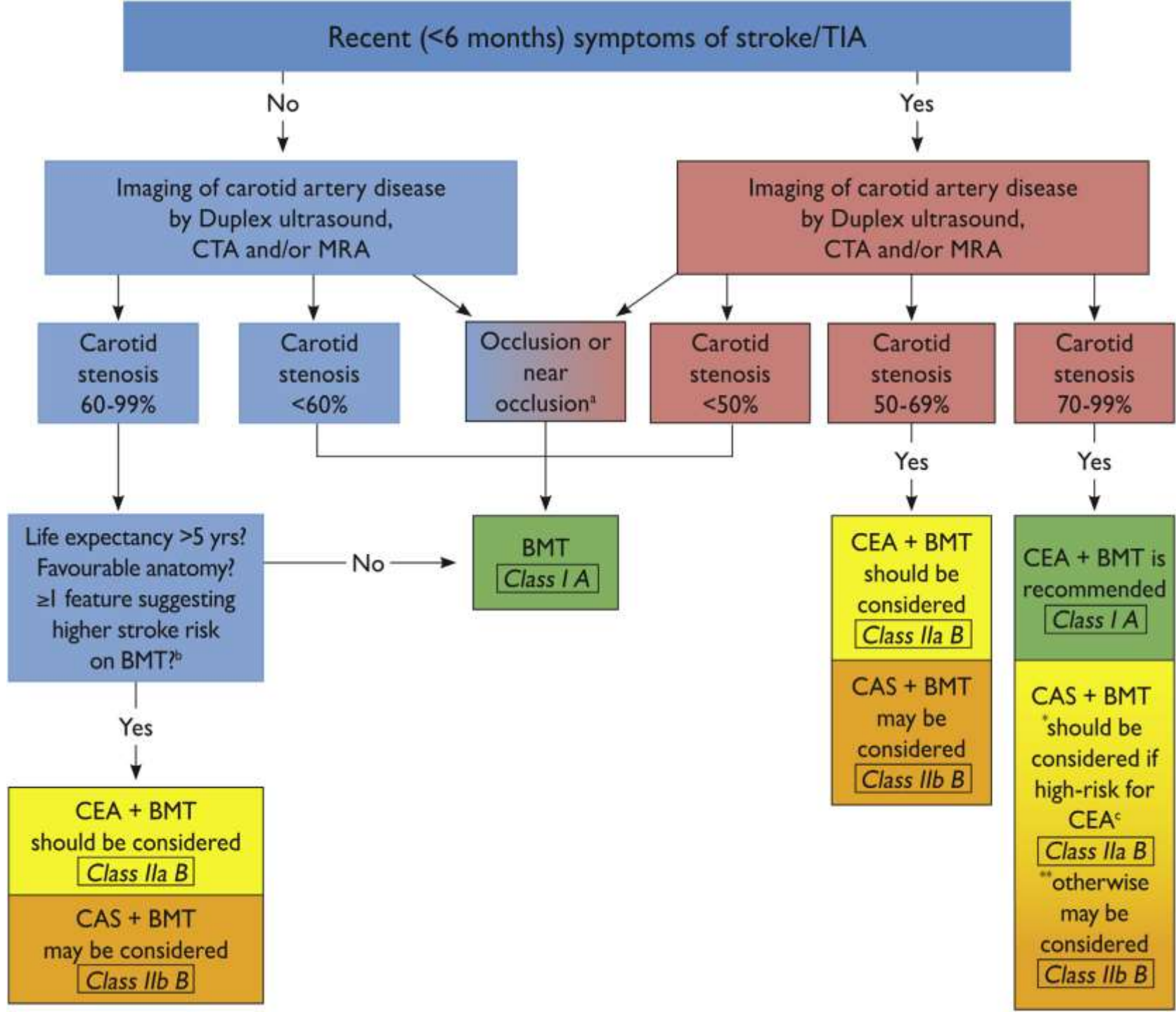
47 : Sténose < 50 % si récidence malgré le traitement

37 > 70 ans Endartériectomie plutôt que CAS

38 < 70 ans CAS possible

Quand et Comment Opérer une Sténose Symptomatique

Recommendation 40	Class	Level	References
When revascularization is considered appropriate in symptomatic patients, endarterectomy is recommended preferably within 14 days of symptom onset	I	A	172,173
40 Aussi tôt que possible, au mieux < 14 jours			
Recommendation 41			
Patients who are to undergo carotid revascularization within 14 days after onset of symptoms should undergo carotid endarterectomy, rather than carotid stenting	I	A	224,225
41 Chirurgie plutôt que Stenting			



Anesthésie/ Technique

Recommendation 49	Class	Level	References
It is recommended that endarterectomy be performed at the discretion of the surgical team's discretion			264–266

49 Pas d'Avantage Indiscutable pour l' ALR

Recommendation 53	Class	Level	References
It is recommended that selective, never) be left to the discretion of the surgeon			286

53 Shunt au Choix de l' Opérateur

Recommendation 54	Class	Level	References
Routine patching is recommended for primary closure. There is no influence on outcome		A	288,289

54 Fermeture avec un Patch

Recommendation 55	Class	Level	References
Eversion endarterectomy is recommended for primary arterial closure			293
Recommendation 56	Class	Level	References
The choice of patch or eversion should be left to the discretion of the operating surgeon			293

55 Eversion > Fermeture primaire

56 Pas de différence entre Patch et Eversion

Recommendation 52	Class	Level	References
Protamine reversal agents should be used to prevent neck haemorrhage			283–285

52 Protamine en fin d' intervention

Complications

Recommendation 59	Class	Level	References
Targeted monitoring and quality control strategies may be considered to reduce the risk of perioperative stroke	IIb	C	170,296

Recommendation 68	Class	Level	References
Any patient who develops a postoperative neck haematoma in association with stridor or tracheal deviation must be re-explored immediately	I	C	

59 contrôle per op : Artériop ou Echo-Doppler

AVC Post Opératoire

Causes : embolie, thrombose, hypo perfusion

Triade : hémiparésie, hémianopsie LH et
dysfonction corticale

complète : occlusion CI ou ACM

incomplète : occlusion des branches ACM

Exploration : Echo Doppler et Doppler trans crânien

Reprise chirurgicale < 6 heures

Urokinase 500000 ou 1 M Unités ou rTPA

Resténoses

Table 21. Meta-analysis of the prevalence of restenosis >70% or occlusion in surveillance data from RCTs involving CEA and CAS.^a

	No. of RCTs	No. of patients	Mean follow-up (months)	Restenosis >70% or occlusion (CI)
Any CEA	11	4740		
Patched CEA				
CAS or angioplasty				10.5% (6.4–16.4)
CAS			62	10.0% (6.0–16.3)

^a Data derived from Kumar et al.³⁸⁰

4,1 à 5,8 %
Resténose > 70 % → AVC 5,2 %

Resténose

Resténose symptomatique > 50 % doit être réopérée

Recommendation 72	Class	Level	References
Patients suffering a late ipsilateral stroke/TIA in the presence of an ipsilateral 50-99% restenosis should undergo redo carotid endarterectomy	I	A	172
Re			
It is recommended that patients suffering a late ipsilateral stroke/transient ischaemic attack in the presence of an ipsilateral <50% restenosis should be treated medically	I	A	172



The Society for Vascular Surgery practice guidelines on the care of patients with an abdominal aortic aneurysm

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AAA SVS Guidelines

- 774 références
- Analyse critique de la littérature
- > 100 recommandations

Facteurs de Risque d'un AAA

Variable	Estimate	P	OR	95% CI	Score
Male (vs female)	1.74	<.0001	5.71	5.57-5.85	18
Age, years (vs <55 years)					
55-59	1.01	<.0001	2.76	2.55-3.00	11
60-64	1.68	<.0001	5.35	4.97-5.76	17
65-69	2.24	<.0001	9.41	8.76-10.12	23
70-74	2.67	<.0001	14.46	13.45-15.55	28
75-79	3.02	<.0001	20.43	18.99-21.99	31
80-84	3.35	<.0001	28.37	26.31-30.59	35

BMI ≥ 25 kg/m ²	0.18	<.0001	1.20	1.17-1.22	2
High blood pressure	0.22	<.0001	1.25	1.21-1.28	2
Coronary artery disease	0.54	<.0001	1.72	1.69-1.76	6
Family history of AAA	1.34	<.0001	3.80	3.66-3.95	14
High cholesterol	0.29	<.0001	1.34	1.31-1.37	3
Diabetes	-0.29	<.0001	0.75	0.73-0.77	-3
Peripheral arterial disease	0.47	<.0001	1.59	1.54-1.65	5
Carotid disease	0.41	<.0001	1.51	1.46-1.56	4
Cerebrovascular history	0.16	<.0001	1.18	1.14-1.21	2

Rôle du tabac

Smoking, packs/day					
≤10 years					
<0.5	0.96	<.0001	2.61	2.47-2.74	10
0.5-1	1.16	<.0001	3.19	2.93-3.46	12
>1	1.16	<.0001	3.20	2.88-3.56	12
11-20 years					
<0.5	1.58	<.0001	4.87	4.63-5.12	16
0.5-1	1.76	<.0001	5.79	5.48-6.12	18
>1	1.79	<.0001	6.00	5.66-6.35	19
21-35 years					
<0.5	1.99	<.0001	7.29	6.97-7.64	21
0.5-1	2.08	<.0001	7.99	7.62-8.38	22
>1	2.13	<.0001	8.41	8.57-9.36	22
>35 years					
<0.5	2.19	<.0001	8.96	8.57-9.36	23
0.5-1	2.42	<.0001	11.19	10.76-11.64	25
>1	2.50	<.0001	12.13	11.66-12.61	26

Effets protecteurs

Diabetes	-0.29	<.0001	0.75	0.73-0.77	-3
Quit smoking					
<5 years ago	-0.14	<.0001	0.87	0.84-0.912	-1
5-10 years ago	-0.39	<.0001	0.68	0.65-0.71	-4
> 10 years ago	-0.87	<.0001	0.42	0.41-0.43	-9
Fruits and vegetables, >3 times/week	-0.10	<.0001	0.91	0.88-0.92	-1
Nuts, >3 times/week	-0.11	<.0001	0.90	0.89-0.93	-1
Exercise, ≥1 time/week	-0.15	<.0001	0.86	0.85-0.88	-2

Résumé

Risque



**Homme > 60 ans, histoire familiale, tabagique,
en surcharge pondérale et athérome autre territoire**

Risque



**Arrêt du tabac, consommation de fruits et légumes, de noix
exercice hebdomadaire
diabète**

Génétique

Genetic locus	Nearest gene (gene symbol)	SNP rs#	RAF	OR (95% CI)	<i>P</i> ^a	Other diseases with which the locus has been associated
3p12.3 [40]	Contactin 3 (<i>CNTN3</i>)	rs7635818	0.42	1.33 (1.10-1.21)	.0028	
9p21.3 ^b [32]	CDKN2B antisense RNA 1 (<i>CDKN2BAS1</i>)	rs10757278	0.45	1.31 (1.22-1.42)	1.2×10^{-12}	Numerous; including CHD, IA, cancers, and Alzheimer disease
9q33.1 ^b [41]	DAB2 interacting protein (<i>DAB2IP</i>)	rs7025486	0.25	1.21 (1.14-1.28)	4.6×10^{-10}	CHD, pulmonary embolus, PAD
12q13.3 ^b [42]	Low-density lipoprotein receptor-related protein 1 (<i>LRP1</i>)	rs1466535	0.68	1.15 (1.10-1.21)	4.5×10^{-10}	

Dépistage

Homme > 65 ans
Réduction de nb de décès 4/1000
Pour sauver 1 vie / 238 examens

Screening, diagnosis,

Guirguis-Blake, 2014⁴
Cosford, 2011⁵
Takaji, 2010⁶

Alamoudi, 2015⁷
Concannon, 2014⁸

with digital
subtraction angiography

- The mean reported sensitivities and specificities were as follows:
 - DUS: 81% and 91.1%
 - CTA: 84.3% and 98.4%
 - MRA: 95.8% and 95.8%
- Non-radiologist-performed ultrasound achieved acceptable sensitivity and specificity for both detection and measurement of AAA

en >65 years) was associ-
AAA mortality (high); abso-
number needed to

In patients with a suspected or known AAA, we recommend performing physical examination that includes an assessment of femoral and popliteal arteries.

In patients with a popliteal or femoral artery aneurysm, we recommend evaluation for an AAA.

Level of recommendation	1 (Strong)
Quality of evidence	A (High)

Screening

We recommend a one-time ultrasound screening for AAAs in men or women 65 to 75 years of age with a history of

Homme ou Femme entre 65 et 75 ans tabagique

Quality of evidence A (High)

We suggest ultrasound screening for AAA in first-degree relatives of patients who present with an AAA. Screening should be performed in first-degree relatives who are

Parent du premier degré

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

We suggest a one-time ultrasound screening for AAAs in men or women older than 75 years with a history of tobacco use and in otherwise good health who have not previously

Si aorte < 3 cm refaire un Echo doppler dans 10 ans

Quality of evidence C (Low)

If initial ultrasound screening identified an aortic diameter >2.5 cm but <3 cm, we suggest rescreening after 10 years.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

Imagerie

Echo doppler examen de première ligne pour le dépistage et le suivi

Level of recommendation 1 (Strong)

Quality of evidence A (High)

**Mesure sur le Scanner
d'une parois externe à l'autre
Mesuré sur la ligne centrale**

Level of recommendation Statement

Quality of evidence Ungraded

Risque de rupture

- **Femme** (X 2)
- **Diamètre de l' AAA**

5.5 - 6 cm	9% par an
6 - 6,9 cm	10 %
> 7 cm	33%
- **Augmentation du diamètre** : chaque 5 mm double le risque de rupture
- **FEV1 altéré**
- **Immuno - supresseurs**

Attitude pratique

We suggest referral to a vascular surgeon at the time of initial

**Demander l'avis d'un chirurgien vasculaire
au moment du diagnostic**

AAA and abdominal or back pain that is likely to be attributed to the aneurysm.

Level of recommendation 1 (Strong)

Quality of evidence C (Low)

We recommend

Intervention recommandée

Si douleurs

Si AAA fusiforme $\geq 5,5$ cm

Si AAA sacciforme

Si femme et AAA ≥ 5 cm

maximum diameter.

Level of recommendation 2 (Weak)

Surveillance

We suggest surveillance imaging at 3-year intervals for patients with an AAA between 3.0 and 3.9 cm.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

We suggest surveillance imaging at 6-month intervals for patients with an AAA between 4.0 and 4.9 cm in diameter.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

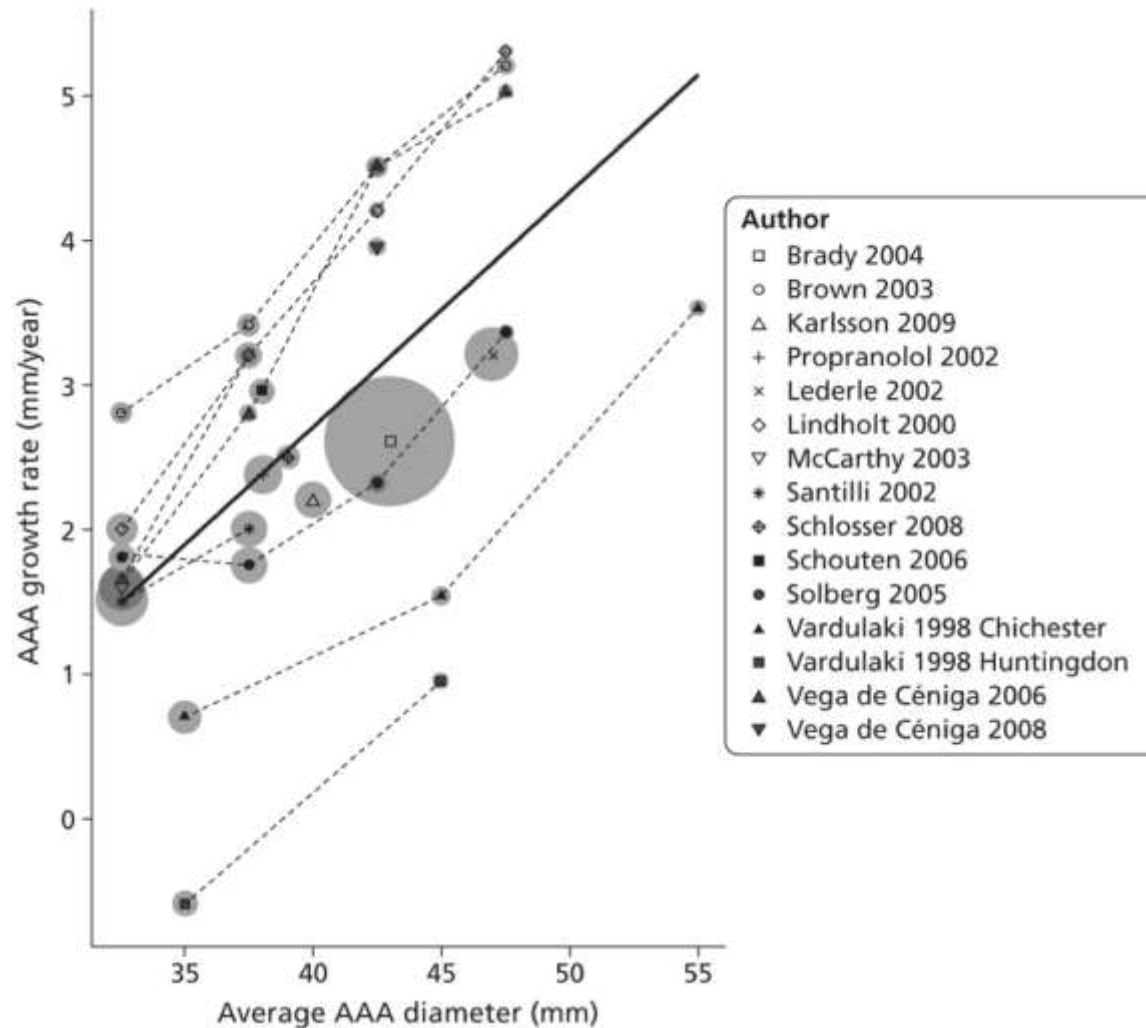
We suggest surveillance imaging at 6-month intervals for patients with an AAA between 5.0 and 5.4 cm in diameter.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

< 3.9 cm 3 ans
< 4.9 cm 1 an
5 - 5.4 cm 6 mois

Progression



Risque opératoire

- Trois fois moindre si EVAR (environ 1 %)

MET : Capacité fonctionnelle

Activity level	Examples of activity level
Poor (1-3 METs)	Eating, walking at 2-3 mph, getting dressed, light housework (washing dishes)
Moderate (4-7 METs)	Climbing a flight of stairs or walking up a hill, running a short distance, heavy housework (scrubbing floors or moving furniture)
Good (7-10 METs)	Doubles tennis, calisthenics without weights, golfing without cart
Excellent (>10 METs)	Strenuous sports such as football, basketball, singles tennis, karate, jogging 10-minute mile or more, chopping wood

Evaluation Cardiologique

In patients with active cardiac conditions, including unstable angina, decompensated heart failure, severe valvular disease, and significant arrhythmia, we recommend cardiology consultation before EVAR or OSR.

Level of recommendation 1 (Strong)

Quality of evidence B (Moderate)

In patients with significant clinical risk factors, such as coronary artery disease,

Systematique : ECG pré op

Dyspnée: ETT

Cardiopathie, diabète, IRC : Scintigraphie ou Echo Dobu

B (Moderate)

We recommend a preoperative resting 12-lead ECG in all patients undergoing EVAR or OSR within 30 days of planned treatment.

Level of recommendation 1 (Strong)

Quality of evidence B (Moderate)

We recommend echocardiography before planned operative repair in patients with dyspnea of unknown origin or worsening dyspnea.

Level of recommendation 1 (Strong)

Quality of evidence A (High)

En pratique

Retarder l' intervention

1. Is there an active cardiac condition?

- Unstable coronary syndrome
- Unstable or severe angina
- Recent MI (<1 month)

Presence cancels or delays aneurysm repair until conditions are treated. Implement medical management and consider coronary angiography.

2. Does the patient have good functional capacity without symptoms?

- MET ≥ 4 (Table IV)

Clinical risk factors

- Diabetes mellitus
- Renal insufficiency
- History of prior CHF

May proceed with aneurysm repair. In patients with known cardiovascular disease or at least one clinical risk factor, beta blockade is appropriate.

3. Is functional capacity poor or unknown?

- MET < 4 (Table IV)

Clinical risk factors

- Diabetes mellitus
- Renal insufficiency

In patients with three or more clinical risk factors, preoperative noninvasive testing is appropriate if it will change management.

Exploration Cardiaque non Invasive

Revascularisation des coronaires avant la cure de l' AAA

- **Pas indiquée en routine** : pas d' amélioration de la survie ni du risque de IM
- **Indiquée** : si syndrome coronaire aigu, angor instable, angor stable et sténose coronaire gauche proximale , tri troncs ou 2 troncs et ischémie à la scintigraphie et /ou altération de la FEVG

Si Revascularisation

In patients who may need aneurysm repair in the subsequent 12 months and in whom percutaneous coronary intervention is indicated, we suggest a strategy of balloon angioplasty or bare-metal stent placement followed by 4 to 6 weeks of dual antiplatelet therapy.

Ballon seul ou stent nu

Level of recommendation

2 (Weak)

Quality of evidence

B (Moderate)

We suggest deferring elective aneurysm repair for 30 days after bare-metal stent placement or coronary artery bypass surgery if clinical circumstances permit. As an alternative, EVAR may be performed with uninterrupted continuation of dual antiplatelet therapy.

Choisir EVAR

Délai Stent Coronaire et cure d'AAA

Level of recommendation	2 (Weak)
Quality of evidence	B (Moderate)
We suggest deferring open aneurysm repair for at least 6 months after drug-eluting coronary stent placement.	

Stent actif
Chirurgie ouverte : attendre 6 mois
EVAR : continuer les antiagrégants

	B (Moderate)
In patients with a drug-eluting coronary stent requiring open aneurysm repair, we recommend discontinuation of P2Y ₁₂ platelet receptor inhibitor therapy 10 days preoperatively with continuation of aspirin. The P2Y ₁₂ inhibitor should be restarted as soon as possible after surgery. The relative risks and benefits of perioperative bleeding and stent thrombosis should be discussed with the patient.	
Level of recommendation	1 (Strong)
Quality of evidence	B (Moderate)

BPCO

We suggest preoperative pulmonary function studies, including room air arterial blood gas determinations, in patients with a history of symptomatic COPD, long-standing tobacco use, or inability to climb one flight of stairs.

Level of recommendation

Quality of evidence

We

Level of recommendation

Quality of evidence

We suggest administration of pulmonary bronchodilators for at least 2 weeks before aneurysm repair in patients with a history of COPD or abnormal results of pulmonary function testing.

Level of recommendation

Quality of evidence

**Arrêt du tabac et bronchodilatateurs
au moins 2 semaines avant la chirurgie**

1 (Strong)

C (Low)

2 (Weak)

C (Low)

Protection néphronique

We suggest holding ACE inhibitors and angiotensin receptor antagonists on the morning of surgery and restarting these agents after the procedure, once euolemia has been achieved.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

We recommend preprocedural hydration with normal saline or 5% dextrose/sodium bicarbonate for patients at increased risk of CIN undergoing EVAR.

Hydratation pré et post opératoire

Level of recommendation 1 (Strong)

Quality of evidence A (High)

We recommend preprocedure and postprocedure hydration with normal saline or 5% dextrose/sodium bicarbonate for patients at increased risk of CIN undergoing EVAR.

Level of recommendation 1 (Strong)

Quality of evidence A (High)

Evaluation du risque opératoire

Parameter	Points
Treatment	
EVAR	0
OAR (Infrarenal)	2
OAR (suprarenal)	4
Aneurysm size, mm	
<65	0
≥65	2
Age, years	
≤75	0
>75	1
Gender	
Male	0
Female	1
Comorbidities	
Myocardial disease	1
Cerebrovascular disease	1
Chronic obstructive pulmonary disease	2
Laboratory value	
Creatinine, mg/dL	
<1.5	0
1.5 to <2	2
≥2	2

Calcul du risque opératoire

Points	Probability of mortality, %	Proposed risk designation
0	0.12	Low-risk group
1	0.20	
2	0.34	
3	0.59	
4	1.00	Medium-risk group
5	1.71	
6	2.91	
7	4.90	
8	8.14	High-risk group
9	13.2	
10	20.75	
11	31.05	Prohibitive high-risk group
12	43.63	
13	57.10	
14	69.59	

EVAR

- Percutané ou abord ?
- Endoprothèse fixation supra ou infra rénale ?
- Artère hypogastrique : claudication fessière ,
ischémie pelvienne, dysérection,

Artère hypogastrique

We recommend preservation of flow to at least one internal iliac artery.

Level of recommendation 1 (Strong)

Quality of evidence A (High)

**Préserver au moins une hypogastrique
Utiliser une endoprothèse branchée
Si embolisation bilatérale le faire en 2 temps**

Level of recommendation 1 (Strong)

Quality of evidence A (High)

We recommend staging bilateral internal iliac artery occlusion by at least 1 to 2 weeks if required for EVAR.

Level of recommendation 1 (Strong)

Quality of evidence A (High)

Résultats

We suggest that elective EVAR be performed at centers with a volume of at least 10 EVAR cases each year and a documented perioperative mortality and conversion rate to OSR of 2% or less.

Level of recommendation	2 (Weak)
Quality of evidence	C (Low)

Complications après Chirurgie Ouverte

Complication	Frequency, %
All cardiac	15
Myocardial infarction	2-8
All pulmonary	8-12
Pneumonia	5
Renal insufficiency	5-12
Dialysis	1-6
Bleeding	2-5
Wound infection	<5
Leg ischemia	1-4
Deep venous thrombosis	5-8
Colon ischemia	1-2
Stroke	1-2
Graft thrombosis	<1
Graft infection	<1
Ureteral injury	<1

From Schermerhorn ML, Cronenwett JL. Abdominal aortic and iliac aneurysms. In: Rutherford RB, editor. Vascular surgery, 6th ed. Philadelphia: Elsevier Saunders; 2005. p. 1431.

Surveillance

We recommend baseline imaging in the first month after EVAR.

CT scan et ED a 1 mois

si OK revoir à 1 an

si endofuite revoir à 6 mois

CT and color duplex ultrasound imaging at 6 months.

Level of recommendation 2 (Weak)

Quality of evidence B (Moderate)

Pas de fuite à un an : écho doppler annuel

annual surveillance.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

Endofuite II mais régression du sac : ED à 6 mois pendant deux ans, puis annuellement

Quality of evidence C (Low)

If a new endoleak is detected, we suggest evaluation for a type I or type III endoleak.

Nouvelle endofuite rechercher type I ou III

aorta at 5-year intervals after open repair or EVAR.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

Quand réintervenir après EVAR

We recommend treatment of type I endoleaks.

Level of recommendation 1 (Strong)

Quality of evidence

Traiter

Endofuite de type I

Endofuite de type II avec augmentation du diamètre

Endofuite de type III

We recommend no treatment of type IV endoleaks.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

We recommend open repair if endovascular intervention fails to treat a type I or type III endoleak with aneurysm enlargement.

Surveiller

Endofuite de type II sans augmentation du diamètre

Endofuite de type IV

We recommend treatment for ongoing aneurysm expansion, even in the absence of a visible endoleak.

Level of recommendation 2 (Weak)

Quality of evidence C (Low)

Thrombose / infection

We recommend that follow-up of patients after aneurysm repair include a thorough lower extremity pulse examination or ABI.	
Level of recommendation	1 (Strong)
Quality of evidence	B (Moderate)
We recommend prompt evaluation for possible graft limb occlusion if patients develop new-onset lower extremity claudication, ischemia, or reduction in ABI after aneurysm repair.	
Level of recommendation	1 (Strong)
Quality of evidence	A (High)

**Antibioprophylaxie si soins dentaires ,
gestes digestifs ou urinaires**

We suggest antibiotic prophylaxis before respiratory tract procedures, gastrointestinal or genitourinary procedures, and dermatologic or musculoskeletal procedures for any patient with an aortic prosthesis if the potential for infection exists or the patient is immunocompromised.	
Level of recommendation	2 (Weak)
Quality of evidence	C (Low)