

ELAPSS score

see also [PHASES Score](#).

From 10 cohorts of patients with [unruptured intracranial aneurysms](#) and follow-up imaging, we pooled individual data on sex, population, age, hypertension, history of subarachnoid hemorrhage, and aneurysm location, size, aspect ratio, and shape but not on smoking during follow-up and family history of intracranial aneurysms in 1,507 patients with 1,909 unruptured intracranial aneurysms and used aneurysm growth as outcome. With aneurysm-based multivariable Cox regression analysis, we determined predictors for aneurysm growth, which were presented as a risk score to calculate 3-year and 5-year risks for aneurysm growth by risk factor status.

Aneurysm growth occurred in 257 patients (17%) and 267 aneurysms (14%) during 5,782 patient-years of follow-up. Predictors for aneurysm growth were earlier subarachnoid hemorrhage, location of the aneurysm, age >60 years, population, size of the aneurysm, and shape of the aneurysm (ELAPSS). The 3-year growth risk ranged from <5% to >42% and the 5-year growth risk from <9% to >60%, depending on the risk factor status.

The ELAPSS score consists of 6 easily retrievable predictors and can help physicians in decision making on the need for and timing of follow-up imaging in patients with unruptured intracranial aneurysms ¹⁾.

A reasonable percentage of ruptured aneurysms have a low calculated PHASES score and these aneurysms may have been managed conservatively should they have presented incidentally prior to rupture. The majority of ruptured aneurysms also had a low ELAPSS score and were at low risk of future growth. The use PHASES score and ELAPSS score alone when making treatment decisions could result in many aneurysms being treated conservatively or undergoing remote surveillance despite rupture potential ²⁾.

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Backes D, Rinkel GJ, Greving JP, Velthuis BK, Murayama Y, Takao H, Ishibashi T, Igase M, terBrugge KG, Agid R, Jääskeläinen JE, Lindgren AE, Koivisto T, von Und Zu Fraunberg M, Matsubara S, Moroi J, Wong GK, Abrigo JM, Igase K, Matsumoto K, Wermer MJ, van Walderveen MA, Algra A, Vergouwen MD. ELAPSS score for prediction of risk of growth of unruptured intracranial aneurysms. *Neurology*. 2017 Mar 31. pii: 10.1212/WNL.0000000000003865. doi: 10.1212/WNL.0000000000003865. [Epub ahead of print] PubMed PMID: 28363976.

²⁾

Hilditch CA, Brinjikji W, Tsang AC, Nicholson P, Kostynskyy A, Tymianski M, Krings T, Radovanovic I, Pereira VM. Application of PHASES and ELAPSS scores to ruptured cerebral aneurysms: how many would have been conservatively managed? *J Neurosurg Sci*. 2018 May 28. doi: 10.23736/S0390-5616.18.04498-3. [Epub ahead of print] PubMed PMID: 29808636.

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