

2014 ESC/ESA Guidelines on non-cardiac surgery: Cardiovascular assessment and management

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The publication of the new joint ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management introduces a number of recommendations in the field. Among other topics, the Guidelines include updated information on the use of clinical indices and biomarkers in risk assessment, and the use of novel anticoagulants, statins, aspirin and beta-blockers in risk mitigation.

Worldwide, [non-cardiac surgery](#) is associated with an average overall complication rate of between 7% and 11% and a mortality rate between 0.8% and 1.5%, depending on safety precautions. Up to 42% of these are caused by cardiac complications. When applied to the population in the European Union member states, these figures translate into at least 167,000 cardiac complications annually, of which 19,000 are life-threatening. This highlights the need for [guidelines](#) designed to improve peri-operative cardiac risk management in non-cardiac [surgery patients](#). The updated 112 page document with 279 references is freely downloadable from the ESC and *EHJ* websites(1) and published in the *European Heart Journal*(2). It will also be available online and in print in the *European Journal of Anaesthesiology* from September.

The 2014 ESC/ESA Guidelines cover the entire field including surgical risk assessment, pre-operative evaluation, and optimal peri-operative management, and will also address relevant cardiological and anaesthesiological issues in patients with specific cardiac diseases and

common co-morbidities who are scheduled to undergo non-cardiac surgery.

These 2014 Guidelines have been released simultaneously with the American College of Cardiology/American Heart Association Guidelines' on the same topic, published in both the Journal of the American College of Cardiology and Circulation.

Professor Steen Dalby Kristensen, chair of the Joint Task Force who wrote the updated guidelines, said: "These Guidelines are based on the best available research in the field of cardiology. Our role is to give physicians the tools to evaluate and mitigate cardiac risk in patients undergoing non-cardiac surgery and the 2014 [recommendations](#) meet this goal."

Dr Stefan De Hert, Chair Scientific Committee ESA said: "The ESA has been an active participant in the development of the new version of these Guidelines. Anaesthesiologists play a key role in the multidisciplinary expert team responsible for pre-operative evaluation of any patient with known or a high risk of cardiac disease undergoing a high-risk non-cardiac surgical procedure. We are happy to fully endorse the new recommendations, which represent the highest standards of practice in peri-operative medicine."

In Europe, it is estimated there are 19 million major surgical procedures annually and, while the majority of these procedures are performed in patients with minimal cardiovascular risk, 30% of patients undergo extensive surgical procedures in the presence of cardiovascular comorbidity; hence, around 5.7 million procedures annually are performed in European patients who present with increased risk of cardiovascular complications.

- **Risk assessment**

The 2014 ESC/ESA Guidelines recommend two different clinical [risk assessment](#) models. The models show how best to evaluate potential risk of cardiac mortality or morbidity in patients before they undergo non-cardiac surgery. Together, these two models can provide physicians with information on the probability of a cardiac complication, such as heart attack or cardiac arrest that in turn can help the clinician in his/her decision-making process. As a result, the use of [biomarkers](#) has now been added into the 2014 guidelines, but only in those patients in whom cardiac dysfunction is already known or suspected.

- **Novel anticoagulants**

The recommendations regarding non-VKA (non-warfarin) direct oral anticoagulants (NOACs) in the 2014 ESC/ESA Guidelines relate to how they should be used to reduce the risk of thromboembolic complications during and after non-cardiac surgery, while at the same time minimising the risk of any bleeding complication. NOACs were not included in the 2009 guidelines as they were not available at that time.

- **Statins**

The 2014 ESC/ESA Guidelines recommend that preoperative initiation of statin therapy should be considered in patients undergoing vascular surgery, optimally at least two weeks before surgery. For those non-cardiac surgery patients already receiving a statin, the 2014 guidelines recommend continuation of the statin into the recovery period following surgery.

- **Aspirin**

Looking at the use of [aspirin](#), the 2014 ESC/ESA Guidelines no longer support the routine use of aspirin in patients undergoing non-cardiac surgery. They state that the use of low-dose aspirin in patients undergoing non-cardiac surgery should be based on an individual decision, which depends on the perioperative bleeding risk weighed against the risk of thrombotic complications.

- **Beta-blockers**

It was felt that clarification was needed on the use of beta-blockers in patients due to the uncertainties surrounding the DECREASE studies. Following the updated advice given in August 2013(3) the 2014 ESC/ESA Guidelines state that beta-blockers are no longer recommended in patients scheduled for low or intermediate risk surgery.

The initiation of beta-blockers in patients who undergo non-cardiac surgery should not be considered routine. With most patients, the use of beta-blockers should be evaluated by their clinician unless specifically stated otherwise.

Peri-operative continuation of beta-blockers is recommended in patients currently treated with beta-blockers. Preoperative initiation of beta-blockers may be considered in patients scheduled for high-risk surgery and who have ≥ 2 clinical risk factors or ASA status ≥ 3 and those who have known Ischaemic Heart Disease (IHD) or myocardial ischaemia. Nevertheless, initiation of perioperative high-dose beta-blockers without titration is not recommended.

When oral beta-blockade is initiated in patients who undergo non-cardiac surgery, use of atenolol or bisoprolol as a first choice may be considered.

"Guiding physicians on best practice is an ever evolving process and we encourage further research and new studies into all areas of cardiovascular assessment and management in non-cardiac surgery," said Professor Kristensen. "This will ensure that our Guidelines continue to be based on the very latest thinking."

"Finally, it is important to emphasise that recommendations within guidelines serve only as a starting point for care of the individual patient. Clinical judgment and patient preference must also play an important role in any therapeutic decision."

More information: References

(1) The full paper may be requested from the ESC Press Office until the embargo is lifted. Thereafter it will available at:

www.escardio.org/GUIDELINES-SU...ve-cardiac-care.aspx

(2) European Heart Journal [DOI: 10.1093/eurheartj/ehu282](https://doi.org/10.1093/eurheartj/ehu282)

(3) Joint Statement: issued by the American College of Cardiology, American Heart Association and the European Society of Cardiology

www.escardio.org/about/press/p...tive-guidelines.aspx

Provided by European Society of Cardiology

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