However, these values are not familiar for Clinicians. The aim of this study was to introduce a patient specific and clinically applicable biomechanical rupture risk assessment tool that would be easy for Vascular Surgeons to comprehend.

Methods: Clinical data (gender, age, Smoking, chronic obstructive lung disease, mean arterial pressure, family history) and CT images were retrospectively gathered from 200 (142 male, 44 female) non ruptured AAA patients from 4 different hospitals in Sweden, Belgium and Germany. FE models were created using the diagnostics system A4 Clinics (VASCOPS, Austria) and the maximum diameter, PWS and PWRR was calculated automatically. Statistical analysis was performed with Mathematica (Wolfram Research Inc, USA).

Results: The maximum diameter was normally distributed in males and females and no difference was found between PWS levels in men and women (P = .091) but the PWRR was higher in women (P = .005). PWS increased in a linear fashion and PWRR exponentially with diameter. We then related PWRR to the maximum diameters of patients and calculated the Rupture Risk Equivalent diameter (RRED) as shown in the figure. A PWRR of 0.48 corresponds to an RRED of 55 millimeters.

Conclusions: Biomechanical AAA rupture risk assessment integrates risk based on clinical parameters and data from CT images. The RRED expresses this information as a diameter that is comprehensible for clinicians.

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PS6.

Population-based Study of Age and Gender Effects in Aneurysm Anatomy
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Objectives: The FDA is collaborating with clinicians to characterize human aortic anatomy in a population-based study, CHAP, to increase patient eligibility for EVAR and augment endograft (EVG) design and evaluation.

Methods: Preoperative CT scans from three centers were prospectively entered into a database from 7/96 to 8/10. A blinded third-party, M2S, recorded 25 standardized measurements from the 3D reconstructions. For inclusion, AAA had to be infrarenal and >5 cm, or 4-5 cm if the orthogonal sac diameter was more than twice the normal aortic diameter. The anatomic criteria were analyzed in 1108 men and 357 women with untreated AAA.

Results: Anatomy of men and women with AAA is significantly different in each age category (P<.005) except for neck length and angulation in the youngest group*. The aortic neck shortens and becomes more angulated with age (P<.005), especially for women. Other differences between men and women are more consistent by age group.

Conclusions: Almost all the key anatomic parameters are significantly different between men and women. Some anatomic differences are independent of age, but the disparity in neck length, angulation and access becomes more apparent as patients age, with women having more severe anatomy at all ages. All of these factors lower EVAR eligibility for older patients, especially women, with only 29% of women over 80 years eligible for EVAR based on current EVG’s Instructions for Use.

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PS8.

Role of Intraoperative Aneurysm Sac Embolization during EVAR in the Prevention of Type II Endoleak
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Objectives: The role of embolization during EVAR in the prevention of Type II endoleak is still not evidenced enough to be introduced in the guidelines, although it is widely used in practice. The aim of the study was to evaluate the efficacy of embolization during EVAR in reducing the Type II endoleak.

Methods: The authors performed a retrospective analysis of the records of 100 patients who underwent EVAR with and without embolization of the aortic sac. The patients were divided into two groups: Group A (patients with embolization of the aortic sac) and Group B (patients without embolization).

Results: The study showed that the incidence of Type II endoleak was significantly lower in Group A (10% vs. 30% in Group B, P<.05). This difference was maintained even after adjusting for age and size of the aortic sac.

Conclusions: The results of the study suggest that embolization of the aortic sac during EVAR can reduce the incidence of Type II endoleak. This finding should be confirmed in a larger, prospective study.

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