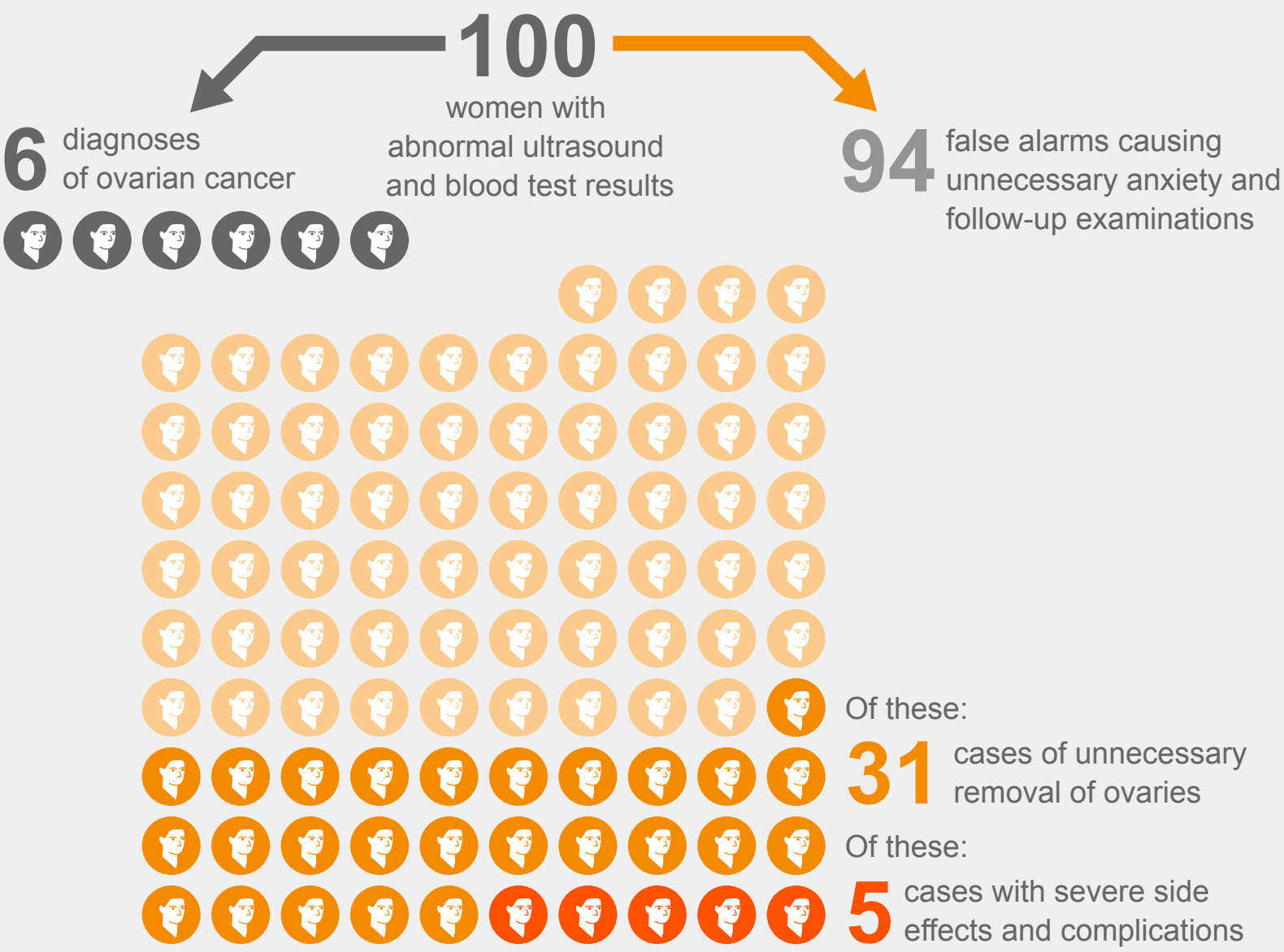
Ovarian cancer screening:
What are the benefits of having an annual ultrasound to screen for ovarian cancer?

No benefits: annual ultrasound examinations do not reduce the risk of dying from ovarian cancer.

	without screening	screened using ultrasound and blood test
Examined women	per 1,000	per 1,000
Abnormalities found	–	102
Diagnosed with ovarian cancer	5	6
Death due to ovarian cancer	3	3

Annotations and references

Considerable damage: abnormal ultrasound test results are almost always false alarms. Abnormal blood test results rarely do better at detecting ovarian cancer. Often these results lead to the unnecessary removal of ovaries with further side effects.



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As part of a large U.S. study in 2011, almost 35,000 women aged 55–74 were screened for five years through ovarian ultrasound and additional blood tests to measure the presence of a tumour biomarker. This combined screening took place once annually over the course of four years and additional blood tests were carried out for two further years. Another group with the same number of women did not receive any screening tests during the study. After 13 years, the scientists compared the numbers of diagnoses and deaths between the groups. The combination of ultrasound and blood test had no effect on the number of deaths. In the group with screening, 3 women died from ovarian cancer – the exact same number as in the group that had not been screened.

In 1,000 women who had been screened through ultrasound and blood tests, 102 had abnormal findings and 6 were diagnosed with ovarian cancer. In the group that had not been screened, there were 5 diagnosed with ovarian cancer. The difference in the number of cancer diagnoses is likely to be just a random fluctuation. At the same time, approximately 1 in 4 cancer tumours were not found through screening, as they were either overlooked or too small at the time of screening. All numbers have been rounded.

In contrast to the U.S. study, doctors in Germany regularly screen using ultrasound and not blood tests. There are currently no data available on mortality rate based on ultrasound screening.

References: PLCO-Studie evidenced in Buys et al. (2011). Journal of the American Medical Association, 305, pp. 2295–2303; Partridge et al. (2009). Obstetrics and Gynecology, 113, pp. 775–782.

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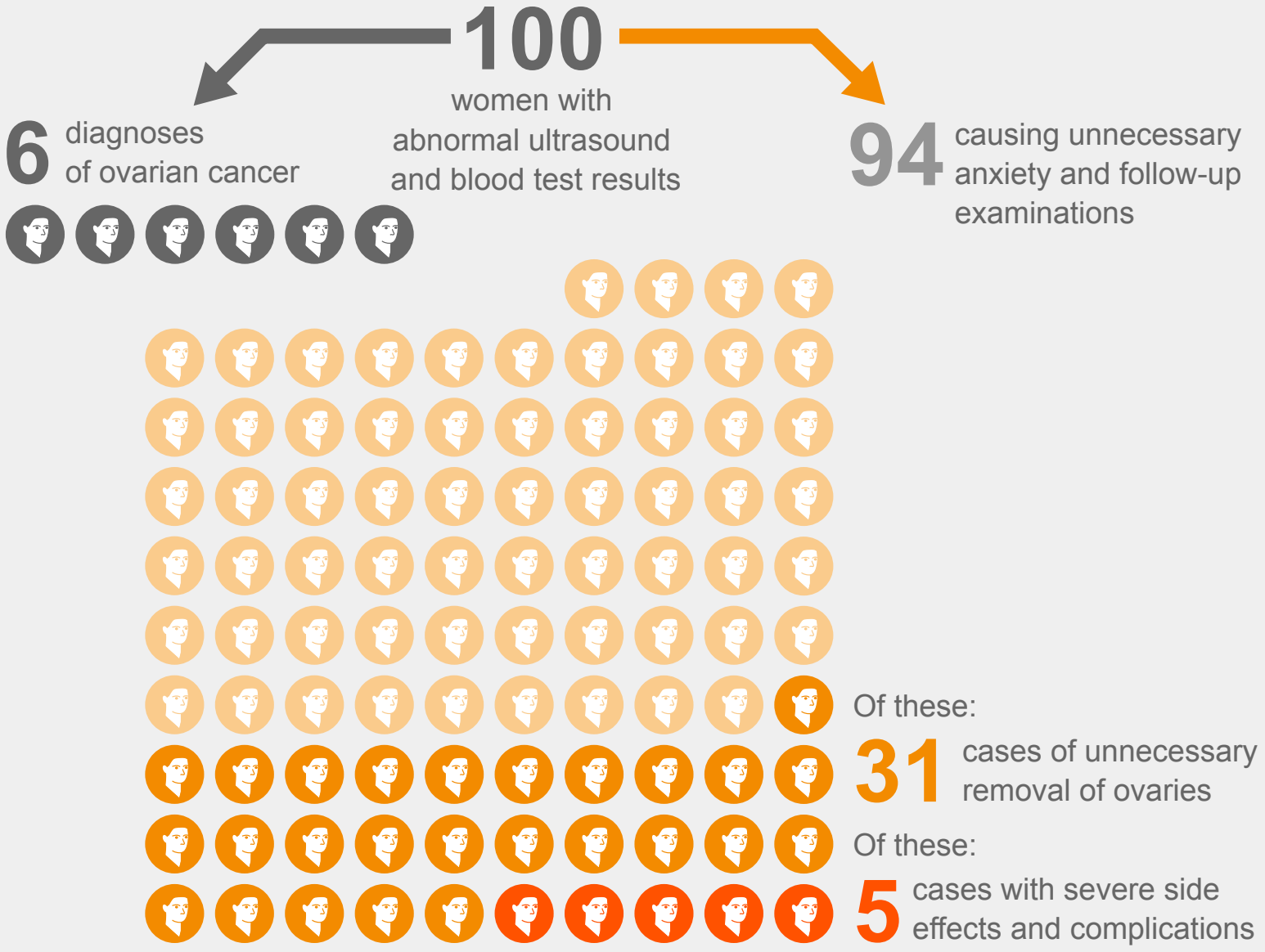

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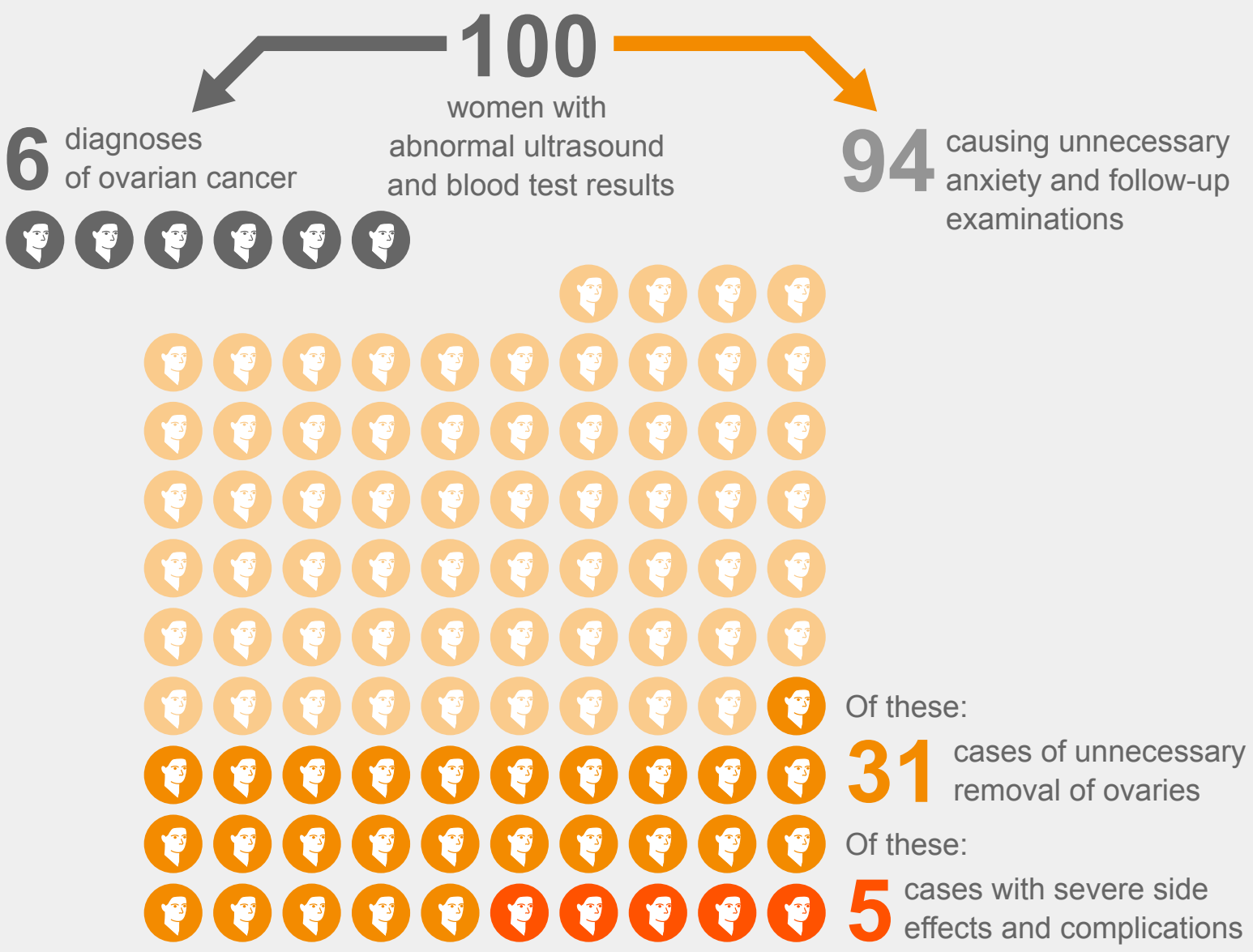

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For comparison purposes, this graphic depicts the numbers of ovarian cancer diagnoses, false alarms, etc. based on 100 abnormal findings.
Please note: In the original study, the total number of abnormal findings was 102. The corresponding figures for that were as follows: of every 1,000 women, 102 had abnormal findings and 6 of those were diagnosed with ovarian cancer. There were 96 cases of false alarms.

For every third false alarm, the ovary was removed. For every sixth surgical procedure, the women experienced serious side effects, such as cardiovascular problems.

References: PLCO study evidenced in Buys et al. (2011). Journal of the American Medical Association, 305, pp. 2295–2303; Partridge et al. (2009). Obstetrics and Gynecology, 113, pp. 775–782.
Scientific development: Prof. A. Altiner, Director at the Institute for General Medical Science at the Rostock University School of Medicine.
The federal association of the AOK (AOK-Bundesverband), is developing these facts boxes together with Prof. Gerd Gigerenzer. He is director of the Harding Center for Risk Literacy at the Max Planck Institute for Human Development in Berlin.
Last updated: 26 May 2015

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