patient. Regarding the utility of the risk assessment tools, we agree that when the highest-risk group of the Caprini score is substratified (score ≥5 group divided into smaller groups), it is highly correlated with venous thromboembolism (VTE) as reported in Figure 1 of our paper.[1]

In this setting, the Caprini score has utility to risk stratify gynecologic oncology patients. However, both the American College of Chest Physicians (ACCP) chest guidelines[2] and the 2005 Caprini risk assessment model (RAM)[3] define a Caprini score of ≥5 as a single highest-risk group (although, as noted by Dr Tafur, the lower-risk groups are defined differently by the ACCP[2] and Caprini risk assessment model[3] as seen in Tables 2 and 3 of our paper[1], respectively). We found that 97% of gynecologic oncology patients have a score of ≥5, meaning that risk stratification is limited if all are in a single group.

Placing all patients in a single high-risk group would be acceptable if all gynecologic oncology patients harbored a high risk of VTE and all required maximum prophylaxis. However, we believe the Caprini score highest-risk group overestimates the VTE risk for a significant proportion of gynecologic oncology patents. In modern gynecologic oncology surgery, greater than 40% of patients undergo minimally invasive surgery (MIS), and these percentages are increasing each year.[1,4] Patients undergoing MIS have a risk of 30 day VTE as low as 0.57%, even with no perioperative mechanical or pharmacologic prophylaxis.[5] The Caprini score assigns the same point values to patients undergoing open laparotomy or MIS, although the VTE risk is quite different (relative risks of 3.9[1] and 3.1[6] for VTE for open vs MIS).

The cited validation of the Caprini score in gynecologic oncology included only patients undergoing laparotomy and did not address MIS.[7] Furthermore, modern-era prophylaxis is not one size fits all. According to ACCP guidelines, patients undergoing abdominopelvic operations for cancer with a Caprini score of ≥5 require mechanical, pharmacologic, and extended-duration prophylaxis. The benefit of extended-duration prophylaxis or even pharmacologic prophylaxis for gynecologic oncology MIS is unclear.

We agree that with substratification of the highest risk group, the Caprini score could be a useful tool to preoperatively assess gynecologic oncology patients. However, the inability to distinguish VTE risk between patients undergoing MIS and open surgery limits the Caprini score's utility in this population. ■

Emma L. Barber, MD
Division of Gynecologic Oncology
Department of Obstetrics and Gynecology
University of North Carolina
103B Physicians' Office Building
Campus Box 7572
Chapel Hill, NC 275990
embarber@med.unc.edu

Daniel L. Clarke-Pearson, MD
Division of Gynecologic Oncology
Department of Obstetrics and Gynecology
University of North Carolina
103B Physicians' Office Building
Campus Box 7572
Chapel Hill, NC 275990
Lineberger Clinical Cancer Center
University of North Carolina
Chapel Hill, NC 275990

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Concerns about the safety of nicotine replacement therapy during pregnancy on lung development in children

TO THE EDITORS: We read with great interest the article "Success of smoking cessation interventions during pregnancy."[1] Bérard et al[1] evaluated the effect of nicotine replacement therapy (NRT) during pregnancy and found that NRT had a favorable impact on smoking cessation rates in expectant mothers. In addition, this retrospective cohort

study also showed a reduction in premature birth rates and small for gestational age. However, so far, evidence from trials of pharmacologic interventions failed to show a positive impact on neonatal outcomes.[2] We agree with the authors that smoking cessation is of utmost importance in improving neonatal outcomes. However, the intervention that was offered should have been unambiguously proven to be both effective and safe for short- and long-term endpoints. We disagree with Bérard et al that NRT is a good option for helping pregnant women quit smoking. Our concerns (based on animal studies) focus on its potential long-term pulmonary consequences.

Elastin is an extremely long-living protein that plays a crucial role in the lungs. Elastin's precursor tropoelastin is mainly synthesized perinatally after which the production is suppressed. Once tropoelastin has been produced, it is secreted into the extracellular matrix and aligned with other tropoelastin proteins into elastin fibers. Subsequently, elastin fibers have to be crosslinked with each other by the enzyme lysyl oxidase (LO). LO crosslinking is a crucial step in elastogenesis. Whereas crosslinked elastin is relatively resistant to degradation by elastases, uncrosslinked elastin is extremely vulnerable to these destructive enzymes. Furthermore, elastin only acquires its full elastic properties after proper LO-crosslinking.

Nicotine inhibits LO activity thereby interfering with elastin crosslinking.[3] Although nicotine during pregnancy has been shown not to have a significant effect on fetal growth, it does have an unfavorable effect on lung development.[3] The age of pulmonary elastin corresponds with the age of a subject and there is usually no substantial elastogenesis in the lungs after the perinatal period.[4] It is therefore likely that subjects who produce inadequate amounts of crosslinked elastin in utero have an increased likelihood of the development of chronic obstructive pulmonary disease (a respiratory disease characterized by loss of elasticity) as adults.

We propose a large intervention trial to be undertaken in order to assess the short- and long-term effects of NRT compared to placebo or against psychosocial interventions. In our opinion, pregnant women should not be advised to use NRT until it has been proved unequivocally that this intervention does not lead to adverse long-term pulmonary effects in their children. ■

Rob Janssen, MD, PhD
Department of Pulmonary Medicine
Canisius-Wilhelmina Hospital
Nijmegen, The Netherlands
Rob.janssen@cwz.nl

Martijn A. Oudijk, MD, PhD
Department of Obstetrics and Gynecology
Academic Medical Center
University of Amsterdam
Amsterdam, The Netherlands

The authors report no conflict of interest.

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REPLY

We thank Drs Janssen and Oudijk for their comment on our article on the use of smoking cessation interventions during gestation among pregnant smokers.[1] However, their comments are based on animal studies and have limited clinical implications; furthermore, they do not provide comparative data with the effect of smoking itself. Furthermore, Janssen and Oudijk falsely interpret a non−statistically significant increased risk as "no positive effect" in the only human data that they gave as supporting documentation.[2] In Coleman et al's[2] meta-analysis, nicotine replacement therapy (NRT) use during gestation increased smoking cessation (which confirms our finding[1]); Coleman et al also showed that NRT use during pregnancy decreased the risk of adverse pregnancy outcomes, although the estimates were non−statistically significant. Coleman et al further revealed that NRT regimens were associated with higher rates of "survival without developmental impairment" in children, which is a benefit. In another study, Vaz et al[3] described that greater adherence was seen with NRT patches, which is what we are looking for in clinical practice.

With regards to smoking and second-hand smoking risks, human scientific peer-reviewed literature has shown that maternal smoking during pregnancy leads to adverse pregnancy outcomes such as major malformations, low birthweight, and chronic comorbidities in children such as asthma, which is a baseline risk.[1,4-6] Hence, our study[1] has attempted to determine the best option available to stop smoking during and after pregnancy to decrease the likelihood of 2 specific outcomes: low birthweight and prematurity. To do that, we have selected a study group of pregnant smokers within a predefined prospective pregnancy cohort; all our study subjects were smokers at the beginning of pregnancy. Hence, our findings reflect the clinical pathway by which a pregnant smoker would decide whether to stop or continue smoking once pregnancy is diagnosed. Our findings give the risk of adverse pregnancy outcomes above and beyond the risk that is associated with smoking.[1]