Are hospitals the safest place for healthy women to have babies?

An obstetrician[1] thinks twice

by Dr. Neel Shah

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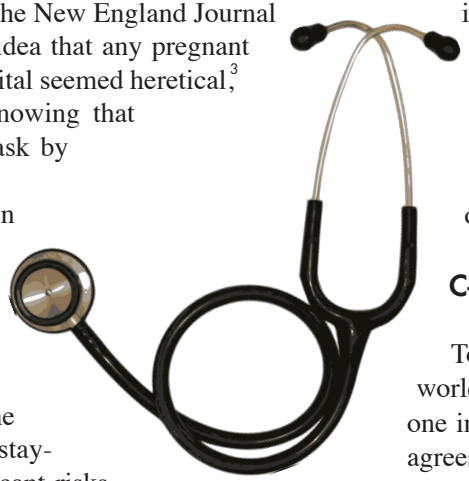
There is a good chance that your grandparents were born at home. I am going to go ahead and assume they turned out fine, or at least fine enough, since you were eventually born too and are now reading this.

But since the late 1960s, very few babies in the United Kingdom or the United States have been born outside of hospitals. As a result, you may find the new guidelines from the UK's National Institutes for Health and Care Excellence (NICE) just as surprising as I did. For many healthy women, the authors of the NICE guidelines believe, there may be significant benefits to going back to the way things were.

Shortly after the NICE guidelines were issued, the New England Journal of Medicine invited me to write a response. The idea that any pregnant patient might be safer giving birth outside the hospital seemed heretical,[3] at least to an American obstetrician like me. Knowing that no study or guideline is foolproof, I began my task by looking for holes to form a rebuttal.



I soon realized that this rebuttal largely hinged on flaws in the American system, not the British one. While we take excellent care of sick patients, we do less well for healthy patients with routine pregnancies – largely in the form of turning to medical interventions more than strictly necessary.

As the guidelines suggest, some women in the UK with low-risk pregnancies may be better off staying out of the hospital. Why? Because the significant risks of over-intervention in hospitals, such as unnecessary C-sections,[4] may be far more likely (and therefore more dangerous) for patients than the risks of under-intervention at home or in birth centers. But women in the UK have access to a greater range of settings where they can give birth. For women in much of the US, the choice is often the hospital or nothing.

Are hospitals always the best option? The view from the UK

The British Birthplace Study, upon which the NICE guidelines are based, reviewed 64,000 low-risk births to compare the relative safety of giving birth in one of four settings: a hospital obstetric unit led by physicians, an "alongside" midwifery[5]-led birth center (on the same site as a hospital obstetric unit), a freestanding midwifery-led birth center, and at home. The study included only women with low-risk pregnancies. Women with obesity, diabetes, hypertension or other medical conditions were excluded from the study.

For low-risk women who had never given birth before, home birth led to bad outcomes (such as encephalopathy[6] or stillbirth) slightly less than 1% of the time. That's rare, but still twice as risky as the other options. Birth centers were no riskier than hospitals for first-time moms, and all options (including home) appeared equally safe for women who had given birth before.

By contrast, this same group of low-risk women was between four and eight times more likely to get a C-section if they started off getting their care in the hospital compared to other settings. Rather than being driven by patient risk or preference, this tendency toward C-sections appeared to be driven by proximity to the operating room.

While the NICE guidelines make it clear that women should be free to choose the birth setting they are most comfortable with, they point out that the risks of over-intervention in the hospital may outweigh the risks of under-intervention at a birth center or at home for the majority of expecting mothers.

The situation is different for women in the US. Last year, 90% of births were attended by physicians, while just 9% were attended by midwives. Fewer than 1% of US women have their babies at birth centers. While access to care is guaranteed in the UK, nearly half of US counties have no midwife, obstetrician, or other maternity care professional.

C-sections are routine, but not without complications

Today, newborn babies in the US have a one-in-three chance of entering the world through an abdominal incision. In the UK, the odds are lower – more like one in four, but everyone on both sides of the Atlantic agrees this still represents too much help.

Part of the challenge may be a feature of the species. Homo sapiens have always required some form of extra help being born. Narrow pelvises are required for walking upright, and large frontal lobes are required for nuanced thought. Neither works in our favor when it comes to navigating the birth canal. The unresolved question is how much help is truly necessary – and how much help is too much.

Cesareans are designed to be a lifesaving surgery, but they are now so routine that C-sections have become the most common major surgery performed on humans,

1. ***obstetrician*** *–a doctor who specializes in pregnancy and childbirth*
2. ***gynecology*** *– branch of medicine focusing on girls and women, particularly their reproductive health*
3. ***heretical*** *– holding an opinion that is at odds with what is generally accepted*
4. ***cesareans/C-sections*** *– a surgical operation for delivering a child by cutting through the wall of the mother's abdomen*
5. ***midwife*** *– a person trained to serve as an attendant at childbirth but who is not a physician*
6. ***encephalopathy*** *– a disease in which the functioning of the brain is affected by some agent or condition, such as viral infection or toxins in the blood*

Image credit: Pixabay, Public domain

This line is exactly 12 centimeters, the width of most C-section incisions.

period. It hasn't been until recently that we started to fully consider the downsides of cesarean deliveries.

For starters, caring for a newborn while dealing with a 12-centimeter skin incision in your own abdomen is the pits, especially when compared to caring for a newborn without having a 12-centimeter skin incision.

Though common, let's not forget that C-sections are a major abdominal surgery that can lead to threefold higher rates of serious complications for mothers compared to vaginal delivery (2.7% vs 0.9%). These complications can include severe infection, organ injury and hemorrhage.

I should also point out that the first C-section a woman has is an easy surgery – I can train an intern to do one safely in just a few weeks. But most women have more than one child, and most women who have a C-section the first time will have a C-section the next time. Obstetricians are among a small group of surgeons who regularly operate on the same part of the same patient over and over again, dissecting thicker layers of old scar tissue with each surgery.

By the second, third, or fourth C-section on the same patient, the anatomy becomes distorted and the surgery becomes increasingly technical. I recently did a cesarean where the woman's abdominal muscles, bladder, and uterus were fused together like a melted box of crayons.

In the most dreaded cases, a woman's placenta (a large bag of blood vessels that nourishes the fetus) can get stuck in this mess of tissue and fail to detach normally. In these cases, pints of blood may be lost within minutes, and the only way to stop the bleeding is often to do a hysterectomy.[7]

Why do hospitals mean more interventions? Risk perception

Since 1970, the number of C-sections performed in the US has gone up by 500%. Some of this increase is because mothers have become older and less healthy, conferring greater risks in pregnancy. But having a baby in this decade is not 500% riskier than having a baby in the 1970s. We know this because C-section rates in just the women who are young and perfectly healthy have gone up just as quickly. And contrary to popular belief, this has little to do with maternal preferences. First-time mothers who request C-sections with no medical reason make up fewer than 1% of the total.

What's driving the increase in C-sections in the US is unclear, but much of the drive to do more comes from our perception of risk. Although my professional contribution to childbirth is often just to catch, my responsibility as a scalpel-trained, general obstetrician in the United States is to mitigate risk.

I am acutely aware that even women with healthy pregnancies can develop life-threatening hemorrhage, fetal distress, or other unanticipated emergencies during labor that require surgical intervention.

My job is to get the baby delivered before it is too late, and often I'm working with ambiguous information. I know how long labor should take on average, but don't have a precise estimate of how long labor should take for the patient in front of me. What if the baby is too big or the pelvis is too narrow? C-sections often come down to a game-time decision.

Fortunately, I can make sure this decision is never wrong. If the baby looks a little blue and lackluster right after I do a C-section, I'm convinced I did it just in time. But if the baby is pink and vigorous after I do a C-section, I'm still convinced I did it just in time. Without evidence to the contrary, it is easy for me and many of my colleagues to believe that operating is always the right course of action.

When it comes to the safety of mothers and newborns, most would agree that it is better to overshoot than undershoot. The problem is that we are overshooting by a lot, in ways that lead to more insidious harm. Nearly half of the cesareans we do in the US currently appear to be unnecessary, and come at a cost of 20,000 avoidable surgical complications and $5 billion of budget-busting spending in the US annually.

C-sections may have consequences for babies as well, in ways that we are just beginning to understand. Exposure to normal bacteria in the birth canal may play a role in the development of a baby's immune system. A Danish study of two million children born at full term found that those born by cesarean were significantly more likely to develop chronic immune disorders. Others have suggested that going from the womb to an artificial warmer can have an impact on immediate bonding, and even success with breastfeeding.

In parts of the world where women do not have access to skilled birth attendants, large numbers of mothers and babies die from preventable causes. Even for the healthiest among us, walking into the woods to have your baby would be unwise. Still, much of the developed world offers only one pragmatic[8] alternative: the hospital. For more than a half-century, we have believed that spending many hours, if not days, in a hospital bed with a smattering of ultrasound gel, clips, wires, heart tones, random beeps and routine alarms is the safest way to have a baby.

Many of the patients I care for benefit from my surgical training. I get to save lives while also sharing in one of the most profoundly joyous moments that families experience. But obstetricians like me may be hardwired to operate, and too many operations are harmful to patients. One strategy to fix this might be to change our wiring. Another may be the British way: for patients to stay away from obstetricians altogether – at least until you need one.

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***7. hysterectomy** – a surgical operation to remove all or part of the uterus*

***8. pragmatic** – practical or sensible*

Deconstruct the Argument

On a separate sheet of paper, answer the following questions. To receive credit, you must write complete, thoughtful sentences.

1. Look at the opening paragraph. Describe Dr. Shah's tone as he begins his piece. What effect is his tone intended to have on the reader?

2. What is the writer's purpose? In other words, what has motivated Shah to write this piece?

3. **Ethos** is a writer's ability to build credibility, establish himself as an expert, and/or convince the readers that he has their best interests at heart. How does Shah build ethos?

4. **Pathos** is an appeal to emotions (everything from humor to horror) in order to sway a reader, while **logos** is the use of data/evidence to prove one's case. Does Shah rely more on pathos or logos to bolster his argument? Which do you find more effective? Why?

5. Locate a place where Shah uses a bit of light humor in his voice and write that line.

6. Locate a place where Shah uses repetition of a sentence structure to emphasize a point and write those two sentences.

7. Locate a place where Shah uses a simile and write that line.

8. Of the previous three rhetorical techniques (humor, repetition, and simile), which do think is most effective in this piece of writing? Why?

9. What single piece of evidence is the most effective at supporting Shah's stance?

10. If you could ask Shah a question about his information or position, what would you ask?

11. What argument could someone who disagrees with Shah's stance make?

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KEY

Are hospitals the safest place for healthy women to have babies?

An obstetrician thinks twice

1. Look at the opening paragraph. Describe Dr. Shah's tone as he begins his piece. What effect is his tone intended to have on the reader? The tone is lighthearted and even a little funny in a mildly wry way. The strategy here is to make the reader smile and feel comfortable. Yes, this is an article by a doctor, but it won't be dry or over our heads, the writer communicates here.
2. What is the writer's purpose? In other words, what has motivated Shah to write this piece? Dr. Shah's purpose is to convince readers that healthy pregnant women, particularly those in the United States, should rethink their decision to have their babies in hospitals. He is alarmed by the high number of cesarean section procedures and wants patients to explore other options that may be safer, less expensive, and more convenient.
3. **Ethos** is a writer's ability to build credibility, establish himself as an expert, and/or convince the readers that he has their best interests at heart. How does Shah build ethos? Dr. Shah is an associate professor at Harvard, one of the most renown universities on Earth. Holding that position automatically gives him great credibility with most readers. Some students may also say that Shah builds ethos by presenting well-researched material and addressing his audience with a kind, confident voice.
4. **Pathos** is an appeal to emotions (everything from humor to horror) in order to sway a reader, while **logos** is the use of data/evidence to prove one's case. Does Shah rely more on pathos or logos to bolster his argument? Which do you find more effective? Why? Students' answers will vary because Shah does a nice job of effectively using both of these elements, but his argument does tilt a bit toward logos. Students' answers will also vary in terms of which rhetorical tool they prefer. I give credit for any reasonable answer.
5. Locate a place where Shah uses a bit of humor in his voice and write that line. In addition to the humorous element in the opening paragraph, Shah also employs humor when he says, "For starters, caring for a newborn while dealing with a 12-centimeter skin incision in your own abdomen is the pits, especially when compared to caring for a newborn without having a 12-centimeter skin incision." Later, he also humorously downplays his role as the doctor in baby delivery when he says, "...my professional contribution to childbirth is often just to catch..."
6. Locate a place where Shah uses repetition of a sentence structure to emphasize a point and write those two sentences. This is the passage: "If the baby looks a little blue and lackluster right after I do a C-section, I'm convinced I did it just in time. But if the baby is pink and vigorous after I do a C-section, I'm still convinced I did it just in time."
7. Locate a place where Shah uses a simile and write that line. This is the line: "I recently did a cesarean where the woman's abdominal muscles, bladder, and uterus were fused together like a melted box of crayons."
8. Of the previous three techniques (humor, repetition, and simile), which do think is most effective in this piece of writing? Why? Students' answers will vary (though that simile is especially evocative) and credit should be given to any reasonable answer.
9. What single piece of evidence is the most effective at supporting Shah's stance? For me, this bit was especially effective in showing the degree of the problem: "Since 1970, the number of C-sections performed in the US has gone up by 500%. Some of this increase is because mothers have become older and less healthy, conferring greater risks in pregnancy. But having a baby in this decade is not 500% riskier than having a baby in the 1970s." Students will likely choose a variety of other lines that they find to be effective in supporting Shah's stance.
10. If you could ask Shah a question about his information or position, what would you ask? Students' answers will vary and credit should be given to any reasonable question.
11. What argument could someone who disagrees with Shah's stance make? Students' answers will vary, but likely counterpoints would be that it's irresponsible to suggest turning healthy pregnant women away from our current hospital-based system when there isn't yet a high-quality alternative that exists in the US. An opponent also might raise an emotion-based argument, telling readers that the health of infants and new mothers is too precious to risk at home births or new, unproven birth centers. As always, credit should be given to any reasonable answer.

Deconstruct the Argument – Writing Assignment

Consider how Dr. Neel Shah uses:

- evidence, such as facts or examples, to support claims.
- reasoning to develop ideas and to connect claims and evidence.
- stylistic or persuasive elements, such as word choice or appeals to emotion, to add power to the ideas expressed.

Write an essay in which you explain how Shah builds his argument to persuade the reader that hospitals are not necessarily the best option for childbirth. In your essay, analyze how Shah uses one or more of the features listed above (or features of your own choice) to strengthen the logic and persuasiveness of his argument. Be sure that your analysis focuses on the most relevant features of the passage. Your essay should not explain whether you agree with Shah's claims, but rather explain how he builds an argument to persuade his audience.

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S.A.T. Essay Rubric

	READING	ANALYSIS	WRITING
ADVANCED	• demonstrates thorough comprehension of the text. • shows an understanding of the text's central idea/s and of most important details and how they connect. • is free of errors of fact or interpretation of the text. • makes skillful use of textual evidence (quotations, paraphrases, or both) to show a complete understanding of the text. **4**	• offers an insightful analysis of the text and demonstrates a sophisticated understanding of the analytical task. • offers a thorough, well-considered evaluation of the author's use of evidence, reasoning, and/or stylistic and persuasive elements, and/or features of the student's own choosing. • contains relevant, sufficient, and strategically chosen support for claims or points made. • focuses consistently on those features of the text that are most relevant to addressing the task. **4**	• is cohesive and demonstrates a highly effective command of language. • includes a precise central claim. • includes a skillful introduction and conclusion. The response demonstrates a deliberate and highly effective progression of ideas both within paragraphs and throughout the essay. • has a wide variety in sentence structures. The response demonstrates a consistent use of precise word choice. The response maintains a formal style and objective tone. • shows a strong command of the conventions of standard written English and is free or virtually free of errors. **4**
PROFICIENT	• demonstrates effective comprehension of the text. • shows an understanding of the text's central idea/s and important details. • is free of substantive errors of fact and interpretation of text. • makes appropriate use of textual evidence (quotations, paraphrases, or both) to show an understanding of the source text. **3**	• offers an effective analysis of the source text and demonstrates an understanding of the analytical task. • competently evaluates the author's use of evidence, reasoning, and/or stylistic and persuasive elements, and/or features of the student's own choosing. • contains relevant and sufficient support for claims or points made. • focuses primarily on those features of the text that are most relevant to addressing the task. **3**	• is mostly cohesive and demonstrates effective use and control of language. • includes a central claim or implicit controlling idea. • includes an effective introduction and conclusion. The response demonstrates a clear progression of ideas both within paragraphs and throughout the essay. • has variety in sentence structures. The response demonstrates some precise word choice. The response maintains a formal style and objective tone. • shows a good control of the conventions of standard written English and is free of significant errors that detract from the quality of writing. **3**
PARTIAL	• demonstrates some comprehension of the text. • shows an understanding of the text's central idea/s but not of important details. • may contain errors of fact and/or interpretation of the text. • makes limited and/or haphazard use of textual evidence (quotations, paraphrases, or both), showing only some understanding of the text. **2**	• offers limited analysis of the source text and demonstrates only partial understanding of the analytical task. • identifies and attempts to describe the author's use of evidence, reasoning, and/or stylistic and persuasive elements, and/or features of the student's own choosing, but merely asserts rather than explains their importance, or one or more aspects of the response's analysis are unwarranted based on the text. • contains little or no support for claims or points made. • may lack a clear focus on those features of the text that are most relevant to addressing the task. **2**	• demonstrates little or no cohesion and limited skill in the use and control of language. • may lack a clear central claim or controlling idea or may deviate from the claim or idea over the course of the response. • may include an ineffective introduction and/or conclusion. The response may demonstrate some progression of ideas within paragraphs but not throughout the response. • has limited variety in sentence structures; sentence structures may be repetitive The response demonstrates general or vague word choice; word choice may be repetitive. The response may deviate noticeably from a formal style and objective tone. • shows a limited control of the conventions of standard written English and contains errors that detract from the quality of writing and may impede understanding. **2**
INADEQUATE	• demonstrates little or no comprehension of the text. • fails to show an understanding of the text's central idea/s, and may include only details without reference to central idea/s. • may contain numerous errors of fact and/or interpretation of the text. • makes little or no use of textual evidence (quotations, paraphrases, or both), showing little or no understanding of the text. **1**	• offers ineffective analysis of the source text and demonstrates little or no understanding of the analytic task. • identifies without explanation some aspects of the author's use of evidence, reasoning, and/or stylistic and persuasive elements, and/or features of the student's choosing, or numerous aspects of the response's analysis are unwarranted based on the text. • contains little or no support for claims or points made, or support is largely irrelevant. • may not focus on features of the text that are relevant to addressing the task. • offers no discernible analysis (e.g., is largely or exclusively summary). **1**	• demonstrates little or no cohesion and inadequate skill in the use and control of language. • may lack a clear central claim or controlling idea. • lacks a recognizable introduction and conclusion. The response does not have a discernible progression of ideas. • lacks variety in sentence structures; sentence structures may be repetitive. The response demonstrates general and vague word choice; word choice may be poor or inaccurate. The response may lack a formal style and objective tone. • shows a weak control of the conventions of standard written English and may contain numerous errors that undermine the quality of writing. **1**

On an actual S.A.T. essay, students receive three separate scores, one each for Reading, Analysis, and Writing. A score, for example, might be 4–3–3, which would show Advanced Reading, Proficient Analysis, and Proficient Writing. Two readers evaluate each essay and their scores are added together, creating the final score which is reported as a number between 2–8 for each of the three categories.

This paper's score is: