

SOCIETY FOR SAMBA
PULATORY ANESTHESIA
Outpatient • Office Based • Non-Operating Room

2022 SAMBA ANNUAL MEETING
MAY 11 – 14, 2022



Preoperative HCG Testing: PRO


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Disclosures



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What I Am Advocating*

Mandatory, universal preoperative hCG testing
for patients who are capable of being pregnant

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Overview

- Background and rationale for universal hCG testing
- Financial considerations
- Policy considerations

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Pregnancy and Anesthesia

The Good, the Bad, and the Ugly

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The Good (Experience)

- No modern anesthetics are known teratogens at clinically-relevant doses
- Many non-elective surgeries occur during pregnancy without obvious ill effect




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The Bad (Uncertainty)

2012 ASA Practice Advisory concluded *insufficient evidence to conclude if anesthesia causes harm in pregnancy*

- Do anesthetics have **effects on neurodevelopment** and if so, when?
- Surgery **DOES pose some risk to pregnancy** and may expose the fetus to teratogens




Apfelbaum JL, et al. Anesthesiology 2012; 116(3):522-38.
ACOG Committee Opinion No. 775 Obstet Gynecol. 2019 Apr;133(4):e285-e286.

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The Ugly (Legal Stuff)

- ASA Closed Claims database reports 7 claims for miscarriage after surgery
 - Not tested or tested but not checked



Apfelbaum JL, et al. Anesthesiology 2012; 116(3):522-38.

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How Good Are These Tests?

- Timing is key
- All rely on β -hCG
- Levels rise after implantation (6-12 days)
- Urine β -hCG at 14 days: Sens./Spec. > 99%
- Quantitative serum tests accurate at 6-10 days

O'Connor RE, et al. Amer J Emerg Med 1993 Jul;11(4):434-6.
Lararenko GC, et al. CJEM. 2001 Oct;3(4):292-5.

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Is It Worth the Cost?

- Orthopedic ASC, elective cases
- 2588 tests over 12 months
- 5 positive tests (0.19%)
 - 1 ectopic pregnancy
- Cost per pregnancy: \$3273**

Kahn RL, et al. Anesth Analg. 2008 Apr;106(4):1127-31

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Is It Worth the Cost?

- Elective gyn procedures at 5 Canadian hospitals
- 5477 tests over 13 months
- 33 positive tests (0.6%)
- Cost per pregnancy: \$3568 CAD (~\$2800 USD)**

Douglas WR, et al. Clin Obstet Gynecol Reprod Med 2015; 1: doi: 10.15761/COGRM.1000112

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Is It Worth the Cost?

- Orthopedic ASC, elective cases
- 4723 DOS urine hCG tests over 23 months
- 7 positive tests (0.15%)
- Cost per pregnancy: \$1005**

Hutzler L, et al. Bull Hosp Jt Dis (2013). 2014;72(2):164-6.

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Is it Worth the Cost?

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- What is the frequency of unrecognized pregnancy?
 - Literature: 0.2% – 2.2%
- What is the cost of detecting one pregnancy?
 - \$1000-\$3000
- What is the dollar value of unrecognized pregnancy?

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Is it Worth the Cost?

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YES

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Universal is Simpler

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```

    graph LR
      subgraph Simple [Simple Process]
        U1[Uterus?] --> B1[Biologic Plausibility?]
        B1 --> T1[Test]
        T1 --> CR1[Check Result]
      end
      subgraph Complex [Complex Process]
        U2[Uterus?] --> RA[Reproductive age group?]
        RA --> SA[Sexually active?]
        SA --> R[Recently?]
        R --> ACP[Any chance of pregnancy?]
        ACP --> AS[Are you sure?]
        AS --> CD[Consent discussion]
        CD --> TAT[Think about test]
        TAT --> MO[Maybe order]
        MO --> MC[Maybe check]
      end
      Simple --- Versus[Versus...] --- Complex
  
```

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Ethical Issues—Policy Creation

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- **Nonmaleficence vs. Autonomy**
- It's surgery, not a buffet
- Disclosure of test results
 - Who discloses a positive test to the patient?
 - Who is allowed to know?
- Special groups
 - Minors – legal requirements
 - Institutionalized / nonverbal patients

Clinical Ethics in Anesthesiology: A Case-based Textbook. Ch 14, pp. 79-83.

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Take-Home Points

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- Surgery poses an unknown risk to a developing fetus
- Cost/benefit favors benefit of testing
- Universal testing is a more reliable process
- Make sure to check the test results and have a policy to deal with positive tests

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