



THE MARYLAND HOUSE OF DELEGATES
ANNAPOLIS, MARYLAND 21401

**Testimony in SUPPORT of HB 1143: Public Health - Office of the Chief Medical Examiner
- Perinatal Autopsies (Lung Float Test Ban)**

Summary: As amended, HB 1143 addresses a critical gap in forensic and legal practice by establishing a two-year moratorium on the use of the hydrostatic lung float test as a determinative tool in assessing live birth, while directing the Maryland Department of Health, alongside the Office of the Attorney General and the Office of the Chief Medical Examiner, to study its usefulness and report findings to the General Assembly by December 1, 2027. The hydrostatic lung float test is widely considered an unscientific and outdated method, as air in the lungs can result from multiple non-respiratory causes, such as decomposition or resuscitation, making it incapable of reliably proving sustained life after birth. By pausing reliance on this method and requiring a comprehensive review, the bill promotes evidence-based practice, safeguards the integrity of legal outcomes, and reduces the risk of unsupported conclusions.

Overview: When criminal liability hinges on proving a live birth, the science must demonstrate sustained life, not simply the presence of air in the lungs. Our evidentiary standards must reflect modern medical understanding and protect against conclusions drawn from findings with multiple possible explanations.

In practice, the hydrostatic lung float test is often used alongside other postmortem observations to determine whether air is present in the lungs. From that finding, investigators may infer that a live birth occurred and proceed to assign a cause of death. However, the presence of air alone does not establish effective circulation, duration of survival, or independent physiological function. Because lung aeration can result from multiple mechanisms unrelated to sustained life after delivery, including decomposition, resuscitative efforts, or passive air entry, using it as a foundational step creates a significant risk of conclusions that extend beyond what the science can reliably support.

Importantly, there are no universally accepted scientific or legal standards governing how the hydrostatic lung float test is performed. Variables such as tissue handling, flotation methods, and interpretation are not standardized across jurisdictions, meaning results can vary depending on the examiner or procedure used. This inconsistency has been widely noted in forensic literature and further undermines the reliability of the test in legal proceedings.



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Modern forensic guidance emphasizes that determinations of live birth require evidence of sustained extra-uterine physiological function, such as effective respiration with circulation, evaluated through a comprehensive, multidisciplinary assessment. [Authoritative guidance from the National Association of Medical Examiners](#) states that investigations of fetal and early neonatal deaths should rely on multiple lines of evidence, including scene investigation, medical history, placental examination, and full autopsy findings, rather than any single test with known limitations

Independent medical experts and human rights organizations have similarly cautioned against the continued use of lung flotation as proof of live birth. [Physicians for Human Rights explains](#) that the presence of air in lung tissue does not establish sustained extra-uterine life and should not be treated as dispositive evidence in forensic determinations, particularly where criminal liability may follow.

[A national investigation by ProPublica](#) documents decades of scientific criticism of the test, including the potential for false positives and the absence of consensus that lung aeration demonstrates live birth. The reporting further highlights that medical examiners and courts have increasingly questioned the reliability of the test when used in isolation or as a determinative factor in criminal cases.

The scientific concerns are longstanding. Forensic literature has repeatedly emphasized that lung flotation cannot distinguish between air introduced through respiration and air introduced through postmortem processes. Classic and contemporary forensic pathology texts note that putrefaction gases can cause lung tissue to float even in cases of intrauterine death, and that mechanical ventilation or handling can introduce air without sustained life. These limitations are precisely why current professional standards favor holistic medical evaluation over single-test determinations.

Amendment and Path Forward:

As amended, HB 1143 takes a measured and responsible approach. Rather than permanently prohibiting the test, it establishes a two-year moratorium while requiring the Maryland Department of Health, in consultation with relevant experts, to evaluate the usefulness and efficacy of the lung float test and make recommendations on whether it should continue to be used as an autopsy tool. This ensures that any future policy decisions are grounded in a thorough, evidence-based review.

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Conclusion: HB 1143 reflects a balanced approach: it acknowledges serious scientific concerns while allowing time for careful study and expert input. By pausing the use of a disputed method and requiring a comprehensive evaluation, the bill helps ensure that determinations of live birth, and the significant legal consequences that follow, rest on reliable, validated evidence. This approach strengthens scientific integrity, supports just outcomes, and reinforces public confidence in Maryland's forensic and legal systems..

Attachments:

- Letter from Dr. Gregory Davis, MD, FCAP Forensic Pathologist, Former Associate Chief Medical Examiner, Commonwealth of Kentucky

November 11, 2020

Honorable Timothy McCrone
Circuit Court for Howard County
8360 Court Avenue
Ellicott City, MD 21043

Re: the float test / hydrostatic lung test

Dear Judge McCrone:

We, the undersigned, affirm that in our opinion, to a reasonable degree of medical certainty, the float test / hydrostatic lung test is not a scientifically reliable test or indicator of live birth.

Given the education, training, experience, positions, and number of the undersigned, it is clear that the float test is not generally accepted within the forensic pathology community.

Respectfully yours,

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