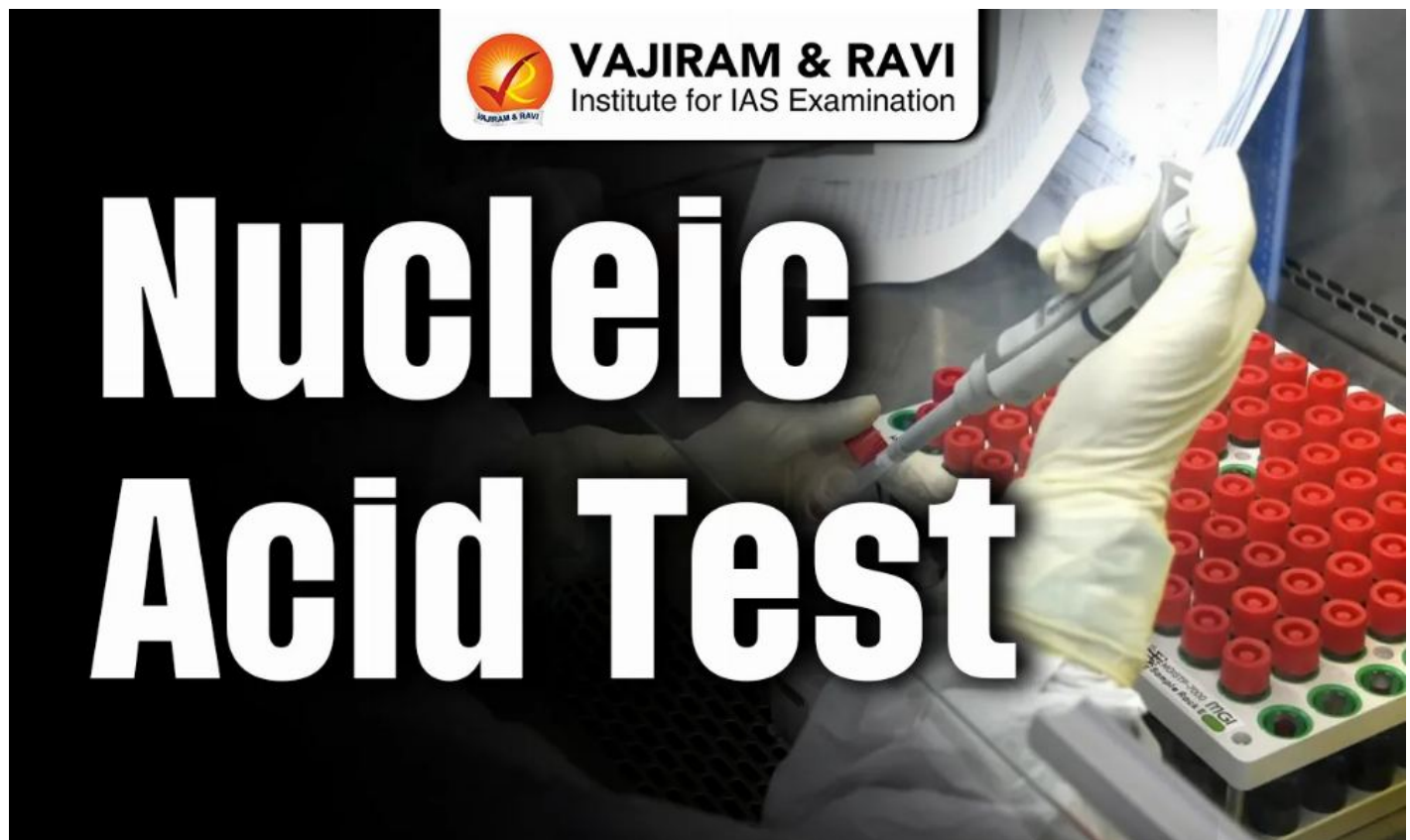


Nucleic Acid Test (NAT) for Blood Transfusion - Explained

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Nucleic Acid Test Latest News

- The Supreme Court has agreed to examine whether the Nucleic Acid Test (NAT) should be made compulsory in blood banks to ensure safer blood transfusion practices.

Background of the Case

- The matter came before a Bench of the Chief Justice of India and two other judges after a petition was filed by an NGO seeking mandatory implementation of NAT across blood banks in India.
- The petitioner argued that the right to safe blood transfusion forms part of the fundamental right to life under **Article 21 of the Constitution**.
- The plea emphasised that NAT is a safer and more sensitive testing mechanism compared to existing screening methods and is necessary to prevent transfusion-transmitted infections.

- The Court has asked the petitioner to submit additional data on cost-effectiveness, State-level implementation, and feasibility before taking a final view.

What is the Nucleic Acid Test (NAT)

- Nucleic Acid Test (NAT) is a highly sensitive molecular diagnostic technique that detects the genetic material (DNA or RNA) of viruses in donated blood.
- It is capable of identifying infections such as **Human Immunodeficiency Virus (HIV)**, **Hepatitis B**, and **Hepatitis C**.
- Unlike traditional serological tests, NAT reduces the “window period”, the time between infection and detectability, thereby enhancing blood safety.
- Currently, many blood banks in India primarily use **Enzyme-Linked Immunosorbent Assay (ELISA)** tests, which are less expensive but comparatively less sensitive during early infection stages.

Constitutional Dimension and Right to Life

- The petitioner has argued that access to safe and infection-free blood is an integral component of the right to life under Article 21.
- The Supreme Court has previously interpreted Article 21 expansively to include the right to health, medical care, and dignity.
- In this context, ensuring safe blood transfusion aligns with the constitutional obligation of the State to protect public health.
- The Court’s decision to examine the issue indicates recognition of the broader public health and human rights implications.

Cost and Feasibility Concerns

- During the hearing, the Bench raised questions regarding the financial feasibility of making NAT mandatory across all States.
- The Court asked whether economically weaker States, already struggling with budgetary constraints, would be able to afford NAT in government blood banks and hospitals.
- While the petitioner argued that the costs of NAT are comparatively low, the Court highlighted that additional financial burdens could affect States with limited fiscal capacity.
- The Bench has directed the petitioner to file an affidavit detailing:
 - Whether State hospitals currently use NAT
 - In how many hospitals is it implemented
 - The States where it is operational
- This indicates that the Court is adopting a data-driven approach before considering mandatory nationwide implementation.

Public Health Context and Recent Incidents

- The issue has gained urgency due to reported cases of children contracting HIV allegedly due to contaminated blood transfusions.
- The petition referred to cases involving Thalassemia patients, who require frequent blood transfusions and are particularly vulnerable to infected blood.
- Thalassemia is an inherited blood disorder in which the body cannot produce adequate haemoglobin. India has a high burden of Thalassemia patients, increasing the demand for safe and regular blood transfusions.
- The case assumes greater significance against the backdrop of reported incidents in Madhya Pradesh and Jharkhand, where children were found HIV-positive following allegedly contaminated transfusions.
- Such incidents have been described as “preventable tragedies” in the petition.
- These events have reignited debate over the adequacy of existing blood screening mechanisms.

Policy and Regulatory Framework

- Blood safety in India is regulated under the **Drugs and Cosmetics Act, 1940**, and supervised by the **National Blood Transfusion Council (NBTC)** and **State Blood Transfusion Councils**.
- Currently, mandatory screening includes tests for HIV, Hepatitis B, Hepatitis C, malaria, and syphilis using serological methods. NAT is not uniformly mandated across all blood banks.
- Introducing compulsory NAT would require:
 - Infrastructure upgrades
 - Skilled laboratory personnel
 - Increased financial allocation
 - Standardisation across public and private sectors
- The decision, therefore, has implications for both health governance and fiscal policy.

Source: TH

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