

30th July 2026

Dear Colleague,

Notification of change: new AST and ALT methods

From Tuesday 4th August 2026, HCA Laboratories will be moving to improved methods for AST and ALT analysis to align with the methods recommended by the International Federation of Clinical Chemistry, which include pyridoxal phosphate (PLP), a required cofactor for measuring AST and ALT activity. The concentration of PLP in patients' serum is variable, with conditions including malabsorption/malnutrition, advancing age, chronic alcohol use, chronic kidney and chronic liver disease being contributing factors for lower concentrations. The addition of PLP in the new methods ensures accurate AST and ALT measurement regardless of a patient's PLP status.

WHAT WILL CHANGE?

- Using the new methods, AST and ALT results will likely be higher. However, the change in results will not be the same for all patients, as this will depend on an individual patient's PLP levels. Our patient comparison studies indicate:
 - For AST results less than ~150 U/L results could be on average 10-15% higher, and up to 10% higher for results greater than ~150 U/L
 - For ALT results less than ~150 U/L results could be on average 10-20% higher, and for results greater than ~150 U/L up to 15% higher.
 - Please note however that larger differences may be seen for individual patient results.
- The results from the new methods are more accurate and reflect the true concentration of AST and ALT in the serum, irrespective of the patient's endogenous levels of PLP. When reviewing results generated using the new methods for the first time, any observed differences should be interpreted cautiously, as they may reflect methodological changes, changes in the patient's clinical status, or a combination of both. Clinical correlation is advised.
- There will be updated reference ranges for adult and paediatric patients. Please see next page for details.

WHAT WON'T CHANGE?

- No change to required sample types
- No change to turnaround times

We are sorry for the extremely short notice informing you of this change, this is due to restrictions around IT changes ahead of an upgrade to our hospitals' EPR system.

Please do not hesitate to contact us if you have any questions regarding this change, or any aspect of the laboratory service.

Kind regards,



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AST REFERENCE RANGE CHANGES

Previous method			New method (Note different age ranges)		
Sex	Age	AST (U/L)	Sex	Age	AST (U/L)
Male and female	<1 year	<59	Male and female	0 to 14 days	40-175
	1 to <4 years	<60		15 days to <1 year	26-78
	4 to <7 years	<50		1 to <7 years	26-60
	7 to <13 years	<40		7 to <12 years	23-41
Female	13 to <18 years	<39	Female	12 to <18 years	14-32
Male	13 to <18 years	<43	Male	12 to <18 years	17-41
Female	≥18 years	<33	Female	≥18 years	<35
Male	≥18 years	<41	Male	≥18 years	<50

ALT REFERENCE RANGE CHANGES

Previous method			New method (Note different age ranges)		
Sex	Age	ALT (U/L)	Sex	Age	ALT (U/L)
Female	<16 years	<31	Male and female	<1 year	6-43
	16 to 18 years	<34		1 to <7 years	5-26
Male	<18 years	<41		7 to <10 years	11-23
			Female	10 to <18 years	9-25
			Male	10 to <18 years	10-39
Female	≥18 years	<34	Female	≥18 years	<35
Male	≥18 years	<41	Male	≥18 years	<50