Fructosamine

Synonyms	
Clinical Indication	Fructosamine can be used to alert clinicians to deteriorating diabetic control before changes in HbA1c occur and is particularly of use for: • Any condition that affects the life span of haemoglobin (e.g. patients with haemoglobinopathies, silent haemoglobin variants or anaemia) where HbA1c result can be misleading • Patients that have undergone a recent transfusion • Closer monitoring during pregnancy Fructosamine is the name given to ketoamine products formed from the non-enzymatic attachment of a carbohydrate to a protein. Serum fructosamine is proportional to the mean blood glucose of an individual over the previous 1-3 weeks and as such provides a shorter term representation of glycaemic control than HbA1c. However, NICE guidelines indicate that fructosamine should NOT be used as a replacement for HbA1c in the general diabetic population. Fructosamine will be automatically added by the laboratory for known diabetics who are shown to have an Hb variant, to facilitate monitoring of glycaemic control. Fructosamine is not recommended for the diagnosis of diabetes. In patients who have an abnormal haemoglobin type and are '? diabetic', please use fasting glucose.
Part of Profile / See Also	
Request Form	Combined Pathology manual Blood form or ICE request
Availability / Frequency of Analysis	Referral test: Analysed by Biochemistry, City Hospital, Birmingham 8910, if specific criteria met.
Turnaround Time	Up to 3 weeks
Patient Preparation	None required
Sample Requirements	
Specimen Type	Serum
Volume	1ml
Container	 Yellow top (SST) tube  Paediatric lithium heparin (Orange top – Sarstedt)

Paediatric SST (Yellow top – BD Microtainer)

Reference Range & Units	200 – 285 umol/L
Interferences	Because serum fructosamine is proportional to blood glucose, any changes in glycaemic control over a period of 2-3 weeks, whether due to changes in lifestyle or treatment, will influence fructosamine result. Large increases or decreases in plasma proteins will also result in variability in fructosamine results and give an inaccurate impression of glycaemic control (e.g. when albumin turnover is increased [i.e. in hyperthyroidism]).
Interpretation & Clinical Decision Value (if applicable)	See reference range and interferences
References	http://www.cityassays.org.uk/fructosamine.html http://www.acb.org.uk/docs/default-source/committees/scientific/amalc/fructosamine-3.pdf https://www.nice.org.uk/guidance/ng28
Test code	FRUC
Lab Handling	Aliquot 500ul and store in referrals rack at 4C. Sent daily by Royal Mail to City Hospital, Birmingham. Please note that fructosamine **must** be separated from red cells (i.e. SST must be centrifuged) within 3 hours of venesection. If the sample is LOC, it is not suitable for fructosamine analysis.

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