NORIP
Suggested reference limits for Glucose in serum

Reference limits suggested by NORIP
All: 4,05 – 6,03 mmol/L (N=919)
Female: 3,97 – 5,94 mmol/L
Male: 4,21 – 6,24 mmolL

Distribution of results in the main group and in subgroups

	Percentiles				
	2.5	**25**	**50**	**75**	**97.5**
All	4,06	4,59	4,87	5,18	6,07
Female	3,97	4,52	4,78	5,06	5,96
Male	4,20	4,69	5,01	5,32	6,28

Comments to the distributions (N= 1050, all results)
Skewness: 0,641 (SE Skewness: 0,075)   →   Positively skewed with extended right tail
Kurtosis: 1,041 (SE Kurtosis: 0,151)   →   Positively, too peaked

Logarithmic transformation:
Skewness: 0,257 (SE Skewness: 0,075)   →   Positively skewed with extended right tail
Kurtosis: 0,607 (SE Kurtosis: 0,151)   →   Positively, too peaked

The 5 lowest values: 3,36-3,52-3,66-3,75-3,76
The 5 highest values: 6,85-6,82-6,81-6,71-6,69

Other comments
No further exclusions of reference values are made in addition to the NORIP exclusions.
12% answers 'yes' to the question about diabetes in the family.

Suggested reference limits
All results(both gender):   4,1 – 6,1 mmol/L (N=1050)
90% confidence interval: (3,97-4,09), (5,99-6,26)

Comments to the suggested reference limits
Number of reference individuals: 1050 (492 male, 558 female).
Age 18-29years: 257, 30-39years: 120, 40-49years: 163, 50-59years: 210, 60-69years: 84, 70-79years: 189, >80years: 27.
Finland (365/35%), Norway (285/27%), Sweden (259/25%), Denmark (110/10%), Iceland (32/3%).
Bayer Technicon (39), Beckman Coulter (99), Dade behring (23), Konelab (72), Kyoto daiichi (25), Olympus (24), Ortho (202), Roche Cobas (249), Roche Hitachi (317).

Fasting reference individuals. 96% of the specimen are collected between 6.am-10.am.
Male values lie at a higher level than female. In both gender the level is increasing with age.
Subpopulations: Male: Low 1,8% (M), High 3,7% (M). Female: Low 4,8% (Y), High 1,1% (M).