



Improving β -hCG Testing for Suspected Testicular Germ Cell Tumours

A Closed-Loop Quality Improvement Project — Urology Walk-In Clinic

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92.9%

AFP requested

78.6%

LDH requested

PRIMARY OUTCOME • TARGET $\geq 95\%$

7.1%

Quantitative β -hCG requested

1 BACKGROUND & AIM

Serum **AFP, LDH and quantitative β -hCG** before orchidectomy are essential for TGCT staging, prognosis and treatment planning. Free β -hCG is **not** a valid substitute, yet it was being requested instead in the Urology Walk-In Clinic — risking repeat sampling and delayed staging, MDT discussion and chemotherapy.

Aim: raise appropriate quantitative β -hCG requests at initial assessment to **$\geq 95\%$ within 6 months.**

2 METHODS

Design: Closed-loop QIP — pre- vs post-intervention audit, Urology WIC.

Population: Suspected TGCT, retrospective 6-month baseline.

Excluded: prior diagnosis, surveillance visits, post-orchidectomy referral, incomplete records.

No patient-identifiable data collected.

3 ROOT CAUSE ANALYSIS

- 1 Similar lab test names (free vs. quantitative β -hCG)
- 2 Low awareness of correct assay selection
- 3 No local tumour-marker ordering protocol
- 4 Electronic order-set design / labelling
- 5 Variable induction of rotating clinical staff

4 KEY FINDING

Free β -hCG was ordered in **11 / 14 patients (78.6%)** — yet repeat sampling to obtain the correct marker was documented in **0 patients.**

Most suspected-TGCT patients proceeded to staging and MDT discussion **without the guideline-recommended marker ever being obtained** — not merely delayed.

5 SECONDARY FINDINGS (n = 14)

78.6%

Free β -hCG ordered inappropriately

0 / 14

Corrected by repeat sampling

32 yrs

Mean age (range 19-41)

6 : 8

Seminoma : non-seminoma

6 PDSA IMPROVEMENT STRATEGY

- 1 Local one-page ordering protocol
- 2 Staff education — consultants to MOs
- 3 Clinic reminder posters
- 4 Departmental email guidance
- 5 Laboratory liaison on nomenclature
- 6 Electronic order-set redesign

Re-audit: 3 months prospective, identical criteria. Success = $\geq 95\%$ quantitative requests.

7 CONCLUSION

Baseline quantitative β -hCG compliance was **7.1%**, far below the 95% target, driven by systematic free β -hCG substitution that was never corrected by repeat sampling. A protocolised ordering pathway, staff education and order-set redesign are proposed, with prospective re-audit to close the loop and safeguard guideline-concordant TGCT staging at SKMCH&RC.