

Piloting a web-based electronic Patient Reported Outcome (ePRO) Portal for patients receiving CyberKnife radiotherapy

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Background

- Sir Charles Gairdner Hospital (SCGH) has participated in the International CyberKnife RSSearch® Patient Registry since 2014. The Registry is administered by the VisionTree Optimal Care (VTOC) platform.
- Patient reported outcomes (PROs) focus on patients' quality of life and are becoming an integral part of health and may contribute to health care system improvements¹⁻⁴.
- In 2018, VTOC introduced a Patient Portal to collect electronic PROs (ePROs).
- Web based ePROs allow patients' symptoms to be captured in real time⁵⁻⁷.
- SCGH was the first Radiosurgery Registry centre to trial the VTOC Patient Portal in Australia.

Aims

- Test VTOC Patient Portal system useability and assess patient compliance.
- Investigate the feasibility of the VTOC Patient Portal to collect ePROs from patients undergoing CyberKnife (CK) treatment at SCGH.

Methods

The methods used in this Study are summarised in Figures 1 and 2. Quality of Life (QoL) data captured in the VTOC system was exported to Microsoft Excel and combined with the Feedback Questionnaires which were entered into Microsoft Access. Descriptive analyses were conducted using SPSS Version 24.

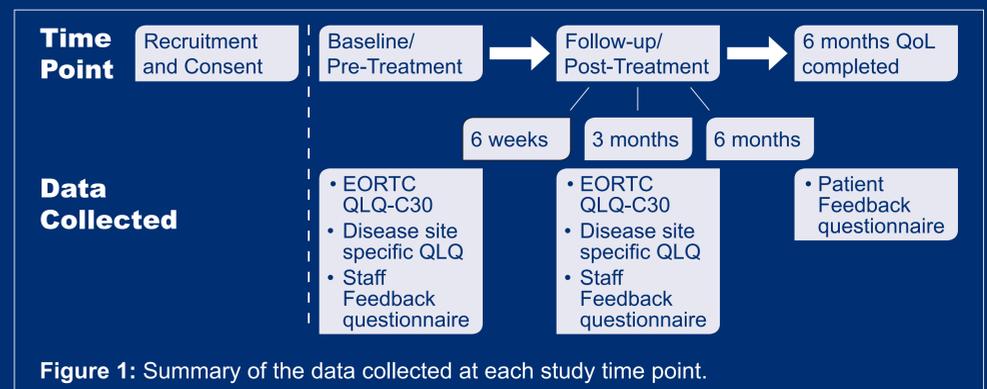


Figure 1: Summary of the data collected at each study time point.

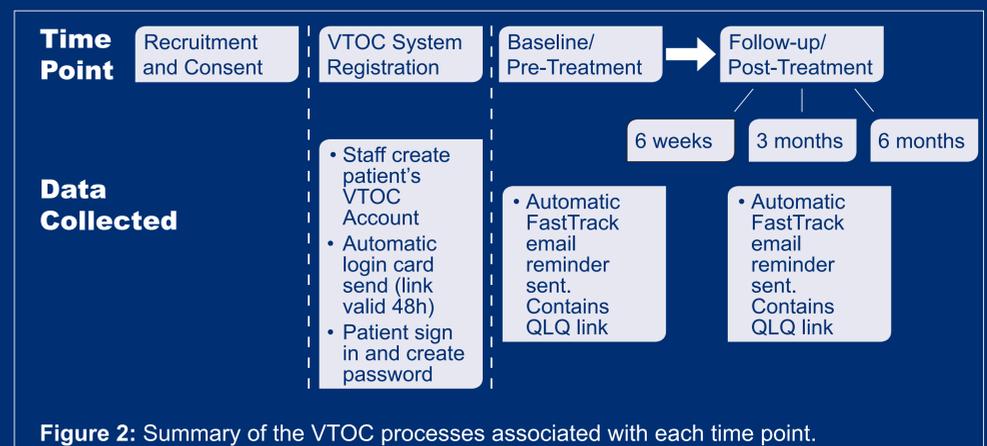


Figure 2: Summary of the VTOC processes associated with each time point.



Results

105 patients were screened. Of the 68 patients invited to participate, 50 (74%) were consented and 18 (26%) declined. 48 patients received CK treatment and QoLs; 33 (66%) were male and the median age was 66 years.

63% of patients registered within 48 hours of being sent a login card, and 14 patients (29%) required assistance after this time. QoL completion rates are outlined in Table 1.

Due to a fault in the VTOC system, potentially caused by two significant dates used to trigger FastTrack email reminders, email reminders were sent manually by the study team.

Table 1: Summary of the Quality of Life Questionnaire completion rates for each time point.

	Number of QoLs Completed (%) (n=48)	Staff reported VTOC technical problems (%) (n=48)
Baseline	39 (81%)	5 (10%)
6 weeks	32 (67%)	47 ¹ (98%) ³
3 months	25 (52%)	46 ¹ (96%) ³
6 months	24 (50%)	46 ² (96%) ³

¹ Staff reported VTOC technical problems n=47, missing=1.

² Staff reported VTOC technical problems n=46, missing=2.

³ Majority of technical problems reported were due to the fault in the automatic FastTrack email reminders.

35 feedback questionnaires were sent; 19 (54%) were completed and returned. Patient feedback on the use of the VTOC system is summarised in Tables 2 and 3.

84.2%

of respondents would use the VTOC Patient Portal again if requested in the future

Table 2: Patient Feedback questionnaire responses: useability of registration processes and the VTOC system.

	Patients' response (n=18)					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Missing
Instructions provided were clear	8 (42%)	8 (42%)	2 (11%)	0	0	1 (5%)
It was easy to login	11 (58%)	4 (21%)	2 (11%)	0	1 (5%)	1 (5%)
It was easy to follow FastTrack link	11 (58%)	6 (32%)	0	1 (5%)	0	1 (5%)
Knew how to ask for assistance	11 (58%)	4 (21%)	2 (11%)	1 (5%)	0	1 (5%)

Table 3: Sample of patient comments regarding the advantages and disadvantages of the VTOC Patient Portal system.

Patient comments, advantages	Patient comments, disadvantages
"Everything is simple and easy to understand"	"Remembering and time due to illness"
"Easy access and easy to follow"	"Generational limitations possibly apply."
"Very convenient"	"I believed I could pause the portal and return next day after interruptions, i.e. phone calls, visitors etc."
"Quick and easy"	"1. Security, 2. Older people may not be able to use email"

Conclusion

- Patient feedback overall was positive.
- Technical difficulties experienced by staff were reported to VTOC. The "Smart Reminder" feature was later enabled, and may be explored in future.
- The use of the Patient Portal for patients treated with CyberKnife at SCGH is feasible, provided technical challenges are rectified.

Acknowledgements

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