



## RESEARCH ARTICLE

### WAITING TIMES IN PLASTIC SURGERY AT A TERTIARY CARE INSTITUTE OF NORTH INDIA

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#### ARTICLE INFO

##### Article History:

Received 24<sup>th</sup> August, 2016

Received in revised form

19<sup>th</sup> September, 2016

Accepted 23<sup>rd</sup> October, 2016

Published online 30<sup>th</sup> November, 2016

##### Key words:

Waiting time,  
Road Traffic Accidents (RTA),  
Delay in Surgery.

#### ABSTRACT

Waiting time for elective care is defined as the time that elapses between firstly the physician's decision to admit a patient for elective surgery following clinical assessment and secondly the date of hospital admission (Merehau Cindy Mervin and Sukhan Jackson, 2009). The 2005 edition of the Fraser Institute Report on Hospital Waiting Lists in Canada indicates that wait times for plastic surgery are the second lengthiest of all specialties (The 2005 edition of the Fraser Institute Report on Hospital Waiting Lists in Canada). The objective of our study was to study the relation between various types of patients admitted in the department of plastic and re-constructive surgery at Sher-i-Kashmir Institute of Medical Sciences, J&K and their respective waiting times. The study was conducted for a period of one year from 1<sup>st</sup> October 2013 to 30<sup>th</sup> September 2014. It was a prospective observational study carried out on the patients admitted in the ward of plastic and re-constructive surgery. The study was done based on the interviews from relevant informants, study of records. Out of the total of 2238 patients admitted 495 cases were that of RTA (road traffic accidents), 162 bear mauls, 135 cleft palate, 117 cleft lip, 99 tin cut injuries, 90 PBC (Post burn contracture) hand, 72 cases of SCC (squamous cell carcinoma) face, 60 cases of BCC (Basal cell carcinoma) thigh. Maximum cases of BCC thigh, bear mauls, RTA, electric burn, tin cut, machine injuries had a wait time of less than 30 days while post burn contractures had to wait for more than a month for their treatment.

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Citation: Ifrah Khalil, G. H., Yatoo and Nowsheen Zaffer, 2016. "Waiting times in plastic surgery at a tertiary care institute of North India", *International Journal of Current Research*, 8, (11), 41218-41220.

## INTRODUCTION

Waiting time is used as a rationing device to deal with the high demand for a limited resource in the context of multiple priority levels. The relationship between waiting time and the aforesaid hospital resources has been less closely studied. NHS hospitals that were unable to cope with rising demand for elective care were those with shortage of beds. A study from Martin and Smith (1999) also found that the provision of NHS beds was significant in the supply of admissions for elective surgery (Merehau Cindy Mervin and Sukhan Jackson, 2009). The 2005 edition of the Fraser Institute Report on Hospital Waiting Lists in Canada indicates that wait times for plastic surgery are the second lengthiest of all specialties (<http://www.fraserinstitute.org>). Based on a survey of plastic surgeons, a report indicates that a median clinically reasonable wait time is 10 weeks. Plastic surgery wait times are increasing (Leif Sigurdson Earl Campbell and Nicholas Carr, 2007). Road traffic crashes (RTCs) are a growing problem worldwide accounting for around 1.2 million deaths and over 50 million injuries annually (Parkinson et al., 2013).

Trauma forms a significant part of the workload in plastic surgery. Delays to treatment currently exist and may result in poorer clinical outcomes. Despite an increase in provision of emergency plastic surgery trauma lists, the average wait for emergency plastic surgery is increasing (Khan et al., 2011). The aim of the study was to study the relation between various types of patients admitted in the department of plastic and re-constructive surgery at Sher-i-Kashmir Institute of Medical Sciences and their respective waiting times.

## METHODOLOGY

The study was conducted for a period of one year from 1<sup>st</sup> October 2013 to 30<sup>th</sup> September 2014. It was a prospective observational study carried out on the patients admitted in the ward of plastic and re-constructive surgery. The study was done based on the interviews from relevant informants, study of records. It included all the patients who were admitted from the outpatient department in the ward of plastic surgery for the purpose of plastic/reconstructive surgery and patients transferred in from accident and emergency. To study the wait-time of the patients admitted in the plastic surgery a prospective observational study was under-taken for a period of one year.

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Data regarding diagnosis, date of registration of the patient in the OPD, date of decision of surgery, number of dates given, date of actual surgery was collected. Wait-time was taken as the time from first date of decision of surgery given on registration card of OPD/Admission diary of the department till the surgical intervention which also included the patients referred from emergency medicine. Average wait-time was calculated using the following formula:-

Total number of waiting days for all admitted patients requiring surgical intervention during study/total number of discharges of operated patients during the same period.

## RESULTS

Total 2238 patients were included in the study who were admitted from OPD or transferred in from the emergency to the ward of Plastic and Reconstructive surgery. However, there were many patients who got discharged from emergency only after under-going various minor procedures from Emergency OT. These patients were excluded from the study.

**Table 1. Showing frequency of different patients admitted in the department of plastic surgery**

Diagnosis	Frequency	Percentage
Bcc thigh	60	2.7%
Bear maul	162	7.2%
Ca breast	12	0.53%
Cleft lip	117	5.2%
Cl.palate	135	6.03%
Dog bite	24	1.07%
El.burn	108	4.8%
Ffh	36	1.6%
Fibroadenoma	6	0.26%
Fracture	54	2.4%
Glass cut	18	0.8%
Hypospadias	117	5.2%
Machine cut	81	3.6%
Nevus	54	2.4%
Pal.fistula	18	0.8%
Pb amputation	51	2.3%
Pb deformity	18	0.8%
Pb ear loss	9	0.4%
Pb scar	36	1.6%
Pbc arm	75	3.31%
Pbc face	9	0.4%
Pbc foot	9	0.4%
Pbc hand	90	4.02%
Pbc leg	18	0.8%
Pbc neck	9	0.4%
Pbc thigh	9	0.4%
Pbc thumb	9	0.4%
Rta	495	22.11%
Sacral ulcer	9	0.4%
Scald burn	36	1.6%
Sc face	72	3.2%
Sc nose	63	2.9%
Sc thigh	39	1.7%
Sc tongue	18	0.8%
Schwanoma	36	1.6%
Swelling	27	1.2%
Tin cut	99	4.4%

### Diagnosis

Total 495 cases were that of RTA(road traffic accidents), 162 bear mauls, 135cleft palate, 117 cleft lip,99 tin cut injuries,90 PBC(Post burn contracture) hand,72 cases of SCC(squamous cell carcinoma) face,60 cases of BCC(Basal cell carcinoma) thigh.

Maximum cases of BCC thigh, bear mauls, RTA, electric burn, tin cut, machine injuries had a wait time of less than 30 days while post burn contractures had to wait for more than a month for their treatment.

**Table 2. Showing relation between diagnosis of admitted in the department of plastic surgery and wait times in days**

Diagnosis	Less 30d	30-60d	60-90d	90-120d	120-150d	150-180d	More 180d
Bcc thigh	27	9	0	9	0	6	9
Bear maul	90	9	0	18	33	3	9
Ca breast	12	0	0	0	0	0	0
Cleft lip	39	0	33	9	9	0	27
Cl.palate	27	0	27	27	15	24	15
Dog bite	24	0	0	0	0	0	0
El.burn	108	0	0	0	0	0	0
Ffh	36	0	0	0	0	0	0
Fibroadenoma	6	0	0	0	0	0	0
Fracture	27	9	18	0	0	0	0
Glass cut	9	0	0	0	9	0	0
Hypospadias	54	18	0	0	12	15	18
Machine cut	63	9	0	0	9	0	0
Nevus	27	9	0	9	3	0	6
Pal.fistula	0	0	0	9	0	0	9
Pb amputation	33	9	0	9	0	0	0
Pb deformity	18	0	0	0	0	0	0
Pb ear loss	9	0	0	0	0	0	0
Pb scar	27	9	0	0	0	0	0
Pbc arm	12	36	18	0	0	0	9
Pbc face	0	9	0	0	0	0	0
Pbc foot	0	9	0	0	0	0	0
Pbc hand	18	54	18	0	0	0	0
Pbc leg	0	18	0	0	0	0	0
Pbc neck	0	9	0	0	0	0	0
Pbc thigh	0	0	9	0	0	0	0
Pbc thumb	9	0	0	0	0	0	0
Rta	432	63	0	0	0	0	0
Sacral ulcer	9	0	0	0	0	0	0
Scald burn	36	0	0	0	0	0	0
Sc face	54	18	0	0	0	0	0
Sc nose	63	0	0	0	0	0	0
Sc thigh	18	18	0	0	0	0	3
Sc tongue	9	9	0	0	0	0	0
Schwanoma	18	18	0	0	0	0	0
Swelling	9	18	0	0	0	0	0
Tin cut	72	9	0	0	18	0	0

Mean wait time of BCC (Basal Cell Carcinoma) was 42.44 days, bear maul 41.74 days, CA breast had a mean of 7.64 days, in electric burn it was 7.32 days. For PBC it was 24.65 days, For RTA it was 11.41 days.

## DISCUSSION

Waiting for a procedure takes a heavy toll on the patient. It not only leads to anxiety and undue stress to the patient but also affects the outcome. SHER-E- KASHMIR INSTITUTE OF MEDICAL SCIENCES caters to a huge inflow of patients. In the year 2014 there were 918018 OPD visits in the institute. Average wait time for the patients is over forty days in the department of Plastic and re-constructive surgery. This study consisted of 2238 patients admitted in the department of Plastic and re-constructive surgery at SKIMS, Soura in the time period of October 2013 to September 2014. The patients were operated for various ailments including burn injuries, breast re- constructions, cleft lip, trauma due to road traffic accidents, hypospadias, contractures, skin malignancies. Each had different wait times. Mean wait time was 42.88 days. Maximum cases of Basal Cell Carcinoma (BCC), bear mauls, RTA, electric burn, tin cut, machine injuries had a wait time of less than 30 days while post burn contractures had to wait for more than a month for their treatment. Patients admitted as emergency cases like RTA, s, bear mauls, carcinoma breast, SCC face, dog-bites, glass cut injuries were admitted on priority basis with least delay.

**Table 3. Relation between diagnosis and average waiting time in plastic surgery**

Diagnosis	Mean wait time(days)
Bcc thigh	42.44
Bear maul	41.74
Ca breast	7.64
Cleft lip	76.04
Cl.palate	85.25
El.burn	7.32
Ffh	1.98
Fibroadenoma	14.15
Fracture	36.26
Glass cut	5.80
Hypospadias	60.82
Machine cut	16.92
Nevus	32.45
Pal.fistula	100.11
Pb amputation	22.42
Pb deformity	8
Pbc arm	40.53
Pbc face	68
Pbc hand	45.23
Pbc leg	42.33
Rta	11.41
Scald burn	10.25
Sc face	24.24
Sc nose	16
Sc thigh	32.88
Sc tongue	21
Schwanoma	33.75
Swelling	35.76
Tin cut	19.03

The cases like cleft palate, burn contractures, hypospadias had a longer wait time of more than 60 days like average wait time of CA breast was 7.64 days, that of fall from height was 1.98 days, RTA was 11.41 days, skin cancers (SCC) was 24.24 days while less urgent cases like cleft lip had a mean wait time of 76.04 days, that of burn contractures was 40.53 days and that in hypospadias was 60.82 days. This suggests that patients with less urgent need of treatment had to wait longer for their treatment and emergency cases were admitted on priority basis. This trend leads to non-availability of beds in the ward since many patients from the emergency are ultimately, shifted to ward where from they are discharged. In our study average wait time for breast re-construction was 7.64 days. According to Fraser Institute Report the mean waiting time for breast re-construction was between 2-4 weeks (The 2005 edition of the Fraser Institute Report on Hospital Waiting Lists in Canada). Similar data was also given by Ministry Of Health report by British Government (<http://swt.hlth.gov.bc.ca>). Another study done by Silvestre *et al* showed a mean wait time for the same procedure to be 26.1 days and one more study done by Richard *et al* revealed a mean wait of 29 days in breast re-construction (Silvestre, 2013; Richard *et al.*, 2012). According to health care in Toronto mean wait time was 36 days in breast carcinoma (Health Care in Toronto, 2012). Comparing it to our study, breast carcinoma patients are treated on priority basis in our institute due to the reason that most of these patients come to the hospital at an advanced stage of the disease, therefore are taken up without any delay. In our study mean wait time for skin malignancies was 24.2 days for SCC and 42.4 days for BCC which is comparable to the Fraser Institute Report where it was 2-4 weeks and 1-2 months respectively, in 44% and 39% patients (<http://www.fraserinstitute.org>). Also a study by Hameed-u-din revealed a mean wait time of 18.1 days (Hameed *et al.*, 2009). Again the result for burn patients and cleft lip is comparable to that shown Canadian Plastic Surgery Benchmarks where it is more

than 7 days in 33%patients for burn cases and 2-4months for cleft lip in 40%cases. Likewise, in our study it was 7.32 days for burns and 76.04 days for cleft lip (Leif Sigurdson Earl Campbell and Nicholas Carr, 2007). The mean waiting time for road accidents, fractures, tin cut, machine cut injuries in our study does not match with that given in Canadian benchmarks where almost all emergency cases are treated within a time frame of 4-7 days (Leif Sigurdson Earl Campbell and Nicholas Carr, 2007). While as here they have to wait for extended period, thereby suggesting an over burdened emergency. This also points to the urgent need of a state of art trauma centre to cater to the ever increasing demand of emergency trauma cases in the state.

### Conclusion

It was inferred from the study that the maximum number of cases admitted were those of road accidents, trauma, burns, animal inflicted. Cases like cleft palates, palatal fistula and contractures having an extended wait times of more than 45 days. However, cases like RTA, burns, FFH, carcinoma breast were treated on emergency grounds, Injuries. Most of these cases are shifted to ward after being admitted in the emergency. This calls for an urgent need of a trauma center in the Valley which will caters to the huge burden of cases in future.

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