Compliance Of Surgical Safety Checklist At Burn and Plastic Surgery Department

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SURGICAL SAFETY CHECKLIST

- The World Health Organization (WHO) launched the **Safe Surgery Saves Lives campaign** in 2008 to improve consistency of surgical care and adherence to beneficial safety practices.
- To help achieve this goal, the **Surgical Safety Checklist** was created.
- **The checklist** is designed to help operating room staff improve teamwork and ensure the consistent use of safety processes.

Categorization

Surgical Safety Checklist

WHO

Before the induction of anesthesia -

Sign-in

Before skin incision

Time Out

Before the patient leaves the operating room

Sign-Out

Surgical Safety Checklist

World Health Organization | Patient Safety
A World Alliance for Safer Health Care

Before induction of anaesthesia

(with at least nurse and anaesthetist)

Has the patient confirmed his/her identity, site, procedure, and consent?
- ☐ Yes

Is the site marked?
- ☐ Yes
- ☐ Not applicable

Is the anaesthesia machine and medication check complete?
- ☐ Yes

Is the pulse oximeter on the patient and functioning?
- ☐ Yes

Does the patient have a:

Known allergy?
- ☐ No
- ☐ Yes

Difficult airway or aspiration risk?
- ☐ No
- ☐ Yes, and equipment/assistance available

Risk of >500ml blood loss (7ml/kg in children)?
- ☐ No
- ☐ Yes, and two IVs/central access and fluids planned

Before skin incision

(with nurse, anaesthetist and surgeon)

- ☐ **Confirm all team members have introduced themselves by name and role.**
- ☐ **Confirm the patient's name, procedure, and where the incision will be made.**

Has antibiotic prophylaxis been given within the last 60 minutes?
- ☐ Yes
- ☐ Not applicable

Anticipated Critical Events

To Surgeon:
- ☐ What are the critical or non-routine steps?
- ☐ How long will the case take?
- ☐ What is the anticipated blood loss?

To Anaesthetist:
- ☐ Are there any patient-specific concerns?

To Nursing Team:
- ☐ Has sterility (including indicator results) been confirmed?
- ☐ Are there equipment issues or any concerns?

Is essential imaging displayed?
- ☐ Yes
- ☐ Not applicable

Before patient leaves operating room

(with nurse, anaesthetist and surgeon)

Nurse Verbally Confirms:
- ☐ The name of the procedure
- ☐ Completion of instrument, sponge and needle counts
- ☐ Specimen labelling (read specimen labels aloud, including patient name)
- ☐ Whether there are any equipment problems to be addressed

To Surgeon, Anaesthetist and Nurse:
- ☐ What are the key concerns for recovery and management of this patient?

SIGNIFICANCE OF A SURGICAL SAFETY CHECKLIST

- Reinforces accepted safety practices
- Fosters better communication and team work between clinical disciplines.
- Improves the safety of operations
- Avoids inadequate anesthetic safety practices
- Reduces avoidable surgical infection
- Reduces unnecessary surgical deaths and complications

Prospective Overview

- Over 234 million surgical operations are performed annually worldwide and complications are occurred in 3–16 % of surgical procedures
- Surgical complications are a major cause of morbidity and mortality and also pose a major financial burden to patients and providers.
- The aim of Safe Surgery Saves Lives programme was to harness political commitment and clinical will to address important patient safety issues, including inadequate anesthetic safety practice.

Research Question

? What is the compliance of surgical safety in Burn and Plastic department of *"Guru Teg Bahadur Hospital"*, Delhi, using WHO Surgical Safety Checklist?

Objective

General Objectives:

- To assess the compliance of surgical safety in Burn and Plastic department of G.T.B.H., New Delhi.

Specific Objectives:

- To analyze the compliance for various items in the checklist.
- To search the area of problem and find the reasons for the same.
- To give recommendations for the further improvement in the surgical safety of patients

Methodology (Study)

- Study Design –
  1. Observational study,
  2. Quantitative Study (assessing checklist compliance),
  3. Qualitative (describe reasons for non-compliance of checklist)
- Study Area – Operation theatre of Burn and Plastic Department of G.T.B.H.
- Duration of Study – 3 Months
- Study Population – Surgery patients, surgeons, anesthetists, senior residents, junior residents, OT nurses

Methodology (Sample)

- Sample Size – 100 surgical patients
- Sampling Method - Convenience sampling
- Data Collection Tool - Checklist
- Inclusion criteria – All the patients in burn and plastic surgery unit undergoing surgery under GA in the month of March and April above the age of 14 year.

Assessment Method

OBSERVATION

CHECKLIST

Contd…

Understand the application of checklist

In detail knowledge about three time-frames of checklist and it's items

Understand checkpoints, measurable elements and means of verification of items in the checklist

Analyze the measurable element with means of verification.

Arrive at conclusion of compliance

Data Analysis

Data Analysis is done using Excel

- The analysis included 100 surgical procedures in Burn and Plastic surgery department. Overall, 100 checklists were handed in and 25 items in each checklist were analyzed to find out items compliance and non-compliance.

Each item was given score of

- 1 marks – Compliance
- O mark – Non compliance

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The score of each timeframe calculated in percentage by using formula.

- Score obtained by items in timeframe of 100 cases for compliance or non-compliance *100/Total no. of item in timeframe of checklist of 100 cases for compliance and non-compliance

The total score of checklist in percentage that can be calculated by using formula:

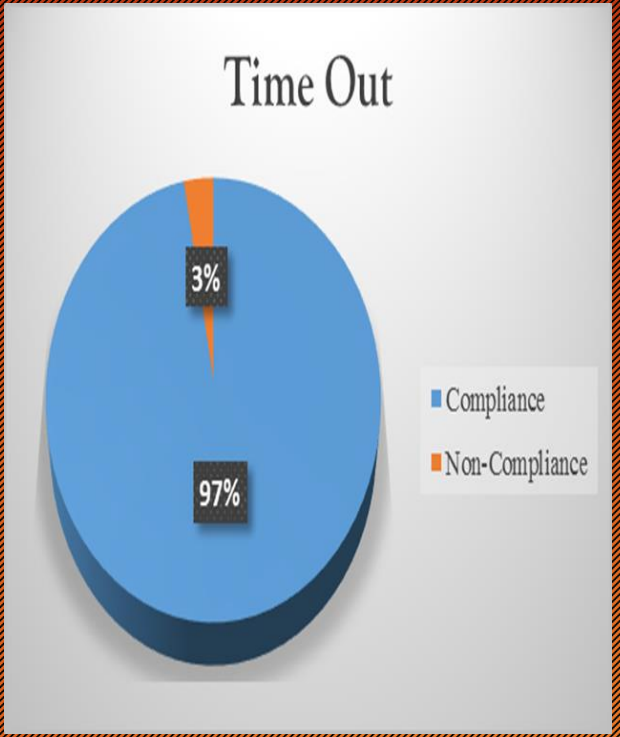
- Score obtained by items in checklist of 100 cases for compliance or non-compliance *100/Total no. of item in checklist of 100 cases for compliance and non-compliance

Before induction (sign-in period)

- In this period, the patients confirmed on his/her identity, procedure, consent and assigned person signature were 100% .
- Anesthetic machines, equipment and drugs were checked in 100 % of the cases and corrective measures were taken.
- Oxygen saturation measurement instrument, pulse oximetry, was attached to the patient and was functional in 90 % cases.
- Every case was assessed for potential drug allergy and difficult airway, risk of aspiration (98 %) and anticipated blood loss (97%).

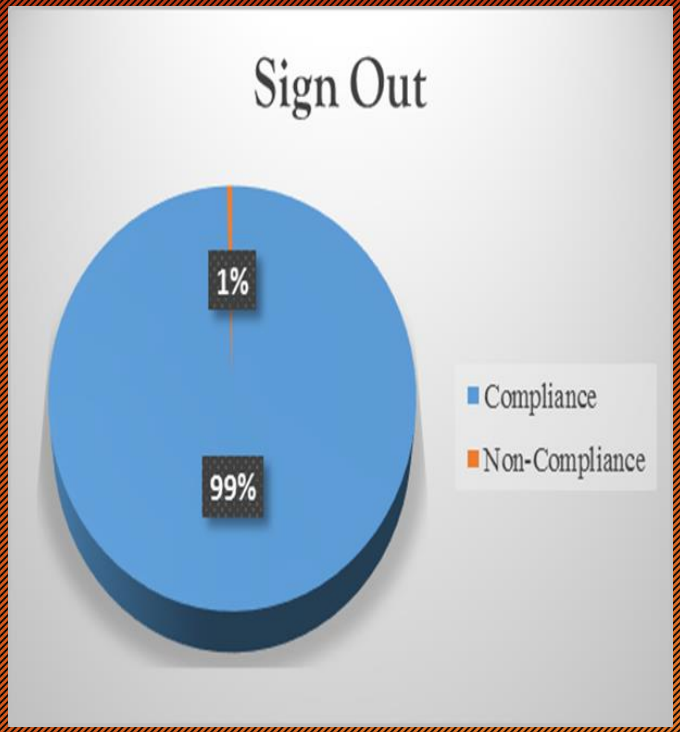
Before skin incision (time-out period)

- Surgical teams were introduced themselves by name and role, confirmed patient name and procedure, sterility, essential imaging display and assigned person signature in 100 % of the cases.
- But the antibiotic prophylaxis within 60 minutes were confirmed in 90% of the cases



Before patient left operating room (sign-out period)

- In sign-out period, the result depicted that nurses verbally confirmed the names of performed procedure, complete count of instruments, sponge, checked for post-operative care of patient , correct label of specimen and assigned person signature in 100% of the cases.
- The equipment process addressed were in 3% of the cases.



Over all Checklist

Sign-in: Non Compliance

Time Out : Non Compliance

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From these check items evaluated, missed items = 2.24% (56/2500).

The most frequently missed checklist items were :

- item no. 4 (10 times)
- item no. 11 (10 times)

that states "Pulse oximetry is attached and functional,

"Has antibiotic prophylaxis been given within the last 60 min"

The missed items in : sign-in = 2.37 %,

time-out = 3.09 %

sign-out = 2.24 %

Reasons for Non-Compliance

- To cover the defect, flap design may need to change during surgery, so the site marked is also changed.
- Sometimes very minor operative procedure is done this may omit to put pulse oximeter.
- Most of the time patient knows the cause of allergy but some time patient does not know the drug to which he/she is allergic.
- Very rarely the blood loss may be more than the expected because of many reasons.

Contd…

- Sometimes we do very minor operative procedure which is clean and non contaminated, in that case we give antibiotic immediately after procedure.
- In plastic surgery there are many way to treat the problem, so we may need to change the plan accordingly.
- In any surgery, the predicted time of procedure may vary but rarely.
- Very rarely the blood loss may be more than the expected because of many reason.

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- To anticipate patient specific concern in some cases, it all depends on the recovery from anesthesia and the operative steps performed by the surgeon.
- Over burden of surgery cases and repeated need of same kind instrument in Burn and Plastic surgery department raises equipment related issue sometimes.
- Because of equipment's being used on another patients as there are shortage of equipment's and over burden of patients.

Items in Checklists at Guru Tez Bahadur Hospital			
Sign in			
Item no.	**Checklist items**	**COMPLIANCE(1)**	**NON-COMPLIANCE(0)**
1	Has the patient confirmed his/her identity, site, procedure and consent?	100	0
2	Is the site marked?	98	2
3	Are the anesthesia equipment and medication checks complete?	100	0
4	Pulse oximetry is attached and functional	90	10
5	Does the patient have a known allergy?	98	2
6	Does the patient have a difficult airway or aspiration risk?	98	2
7	Is risk of blood loss >500 ml and require blood?	97	3
8	Does the assigned person put his/her name and signature?	100	0
Subtotal		**781**	**19**
	Sign In	**Compliance**	**Non-Compliance**
	800	**97.625**	**2.375**
Time out			
Item no.	**Checklist items**	**COMPLIANCE(1)**	**NON-COMPLIANCE(0)**
9	Confirm all team members have introduced themselves by name and role	100	0
10	Confirm the patient's name, procedure and site of incision	100	0
11	Has antibiotic prophylaxis been given within the last 60 min?	90	10
Anticipated critical events to surgeon:			
12	What are the critical or non-routine steps	95	5
13	How long will the operation take?	93	7
14	Is the anticipated blood loss > 500 ls?	97	3
Anticipated critical events to anesthetist:			
15	Are there any patient-specific concerns?	95	5
Anticipated critical events to nursing team:			
16	Sterility confirmed	100	0
17	Are there equipment issue or any concern	96	4
18	Is essential imaging displayed	100	0
19	Does the assigned person put his/her name and signature?	100	0
Subtotal		**1066**	**34**
	Time Out	**Compliance**	**Non-Compliance**
	1100	**96.90909091**	**3.090909091**
Sign out			
Item no.	**Checklist items**	**COMPLIANCE(1)**	**NON-COMPLIANCE(0)**
20	Nurse verbally confirms name of procedure	100	0
21	Completion of instrument, sponge, needle and suture counts	100	0
22	Are there any equipment problems to be addressed?	97	3
23	What are the key concerns for recovery and management of this patient?	100	0
24	Specimen labeled correctly	100	0
25	Does the assigned person put his/her Name and signature?	100	0
Subtotal		**597**	**3**
	Sign Out	**Compliance**	**Non-Compliance**
	600	**99.5**	**0.5**
Total		**2444**	**56**
	Checklist Compliance	**Compliance**	**Non-Compliance**
	2500	**97.76**	**2.24**

Recommendation

- Multidisciplinary training to improve utilization may increase the rates of compliance with the checklist.
- Gap between knowledge and practice needs to be bridged. Greater awareness and education is required.
- There was gap seen in equipment availability during surgery. As this was repeated, problem should be addressed in front of hospital administration.

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- Validated evidence based initiatives needs to be emphasized and published.
- Conducting regular audit of checklist utilization
- Supplementary training and attention to actual checklist use would be indicated to ensure that this valuable tool could be used more routinely.
- The OT is headed by clinical staff, an association of OT manager inside OT can bring significant changes to current scenario.

Conclusion

Surgical service is one of the fundamental health care services given in the healthcare system. The main challenge is to achieve a score of 100%,hospital need to work more.

Departmental load should not only be managed by clinical staff, a team of OT managers can cut down workload and can bring more significant changes.

Appraisal for every work is very necessary to increase enthusiasm among staff towards providing the healthcare services along with the upkeep of the services.

References

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