The analysis of record and outcome of Anaesthesia for the Children undergoing Paediatric surgery in Kanti Children's Hospital

(Establishment of Database System

In

Paediatric Anesthesia for Children undergoing anesthesia

At

Kanti Children's Hospital, Katmandu)

SUBMITTED TO

NEPAL HEALTH RESEARCH COUNCIL RAMSHAHA PATH, KATHMANDU

SUBMITTED BY

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Few Words

It was since the specialization in anaesthesia I had the feeling that the good work of anaesthesia has to be recorded and analyzed. In Kanti Children's Hospital, the anaesthesia record keeping have been started since the year 2046 BS (1989/1990). It was analyzed for a period of two years and published as a simple record and analysis. The report was published in one of the researcher's publication. (Ref) This stimulated the researcher to have extensive record keeping and analyzing the data. Now it has become a routine work to present the statistical data in the annual function of the department since last four years i.e. since the year of Silver Jubilee celebration. Now the statistical data is presented regularly at the end of every month. This really reflected the working pattern of the department and the training of the different level of anaesthesia man power. The present research reflected the status of the paediatric anaesthesia services in the only paediatric hospital of the country. This is just the beginning of our effort. No record of such nature has been traced in the literature. So this might be the original work and may have many shortcomings. Healthy comments and suggestions will be highly appreciated.

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Executive Summary

The project title "The analysis of record and outcome of Anaesthesia for the Children undergoing Paediatric surgery in Kanti Children's Hospital " is for the Establishment of Database System in Paediatric Anesthesia for Children undergoing anesthesia at Kanti Children's Hospital, Kathmandu, submitted to Nepal health Research Council, Ramshaha Path, Kathmandu, submitted by Dr.Gautam Ratna Bajracharya December 2003

The study has been divided into different chapters. The first chapter deals with the introduction of the study. Second chapter deals with the literature review. Third chapter deals with the research design. The fourth deals with results obtained from research and the discussion over them in various factors. The last chapters deal with the conclusion and recommendation.

The main source of information is retrograde analysis of the data available in the department of Paediatric Anaesthesiology, Kanti Children's Hospital. A total of 1500 samples were selected including routine and emergency cases.

It is found that the analysis of data is a complicated procedure. But it reflected the nature of the cases handled and the anaesthetic line of management. Lot of inferences can be made with the available data for future projects for development of anaesthesia departments and specially paediatric anaesthesia department.

The varieties of cases were common to rarer and interesting cases. The cases like inguinal hernias and hydrocoels become the baseline cases occurring in the department. The challenging cases like Tracheo-oesophageal fistula comes to the department and has some success stories. As a whole, the performance of the department is encouraging. The analysis of different combination of services with reference to age groups and weight groups reflected some ground to think on the management of paediatric anaesthesia cases.

Chapter – 1

Introduction

The pediatric anesthesia started from 1976 A.D and anesthesia service has been delivered since then and as a result as much as 25,000 children went through the service. All the cases are duly registered in a database which has been concisely designed. There has been transformation of record keeping from time to time developing effective database system to ensure better reflection of the services. With simple database bank, Kanti Children Hospital has divulged information on various pertaining issues which has been important and interesting also. Since it started to keep records of each case, all have been well maintained with great accuracy. The data has been helpful to the students as well for their dissertation. From time to time there has been visits made to the anesthetic department of this hospital by prominent experts and they have reviewed that the department has been showing promising effort to upgrade the service in the future.

Statement of the Problem

The database maintained for all the anesthesia cases have been poor and the information has been insufficient to properly analyze the data as required. Hence, this has hindered to evaluate the information on various grounds. This is mainly due to lack of skilled manpower to store the data and analyze it respectively. Without proper database system it will not be possible to review and forecast the overall situation.

Objectives

General Objective:

"The analysis of record and outcome of Anaesthesia for the Children undergoing Paediatric surgery in Kanti Children's Hospital " (Establishment of Database System in Paediatric Anesthesia for Children undergoing anesthesia At Kanti Children's Hospital, Katmandu.)

Specific Objective: To Analyze

- 1. Different age group of patients receiving paediatric anesthesia
- 2. Different weight group of patients receiving paediatric anesthesia
- 3. Different type of anesthesia
- 4. Different type of operations
- 5. Patients on TIVA
- 6. Patients on ANAESTHETIC INDUCTION
- 7. Patients on INTUBATION
- 8. Patients on conduction of anaesthesia on MASK
- 9. Patients on LMA
- 10. Patients on SPONTANEOUS VENTILLATION
- 11. Patients on MUSCLE RELAXANTS
- 12. Patients on IPPV
- 13. Outpatient anesthesia
- 14. Patients with SICU SERVICES
- 15. Patients with IV FLUIDS
- 16. Patients on BLOOD TRANSFUSION
- 17. Patients on CAUDAL BLOCKS
- 18. Patients on ILIO-INGUAINAL BLOCK
- 19. Patients on PENIAL BLOCK
- 20. Others

Chapter 2

Literature Review

We have tried to search the literature related to our research, but failed to find one. So, our study will be the original one. There will be lot of sort comings in the study. The healthy comments and suggestions will be highly appreciated.

Chapter 3

Research Design

Research Design and Methodology

Research Method

Qualitative (), Quantitative (*), Combined ()

Study Variables

All the information pertaining to the patient's personal description along with the use of anesthetic services will be the standard variables in this study. Anesthetic and other drugs used as- pre, intra and post-operatively will be taken into consideration.

Type of Study: Descriptive Study ()

: Retrospective data (*)

Study Site and its Justification

Kanti Children's Hospital.

To give a rational picture and devise a strategy to decrease mortality and morbidity of the cases needing anesthetic services among children.

Target Population

All the children between 0 - 14 years of age

Sampling Methods : Census

Sample Size :1500 registered cases

Tools and Techniques for Data Collection :

All the retrospective data which has been set up in the Department of Paediatric Anesthesiology during the period of one year.

Plan for Supervision and Monitoring :

Supervision will be conducted consistently in every crucial step to minimize error during data input and data analysis period by the research officer. Similarly, supervision and monitoring will be observed by officials of NHRC also from time to time to see that the program is going well on track. This way it will be very helpful in the entire process and enable better outcomes later.

Plan for Data Management

The conduction of information collection and storing the same into the databank will be performed with meticulous effort by the team. All the information will be carefully entered into the databank from the record book. Once all the samples (1500) are entered into the computer, a thorough analysis will be conducted on several grounds to get in-depth picture on every detail. Later with the help of the data result a brief report will be prepared.

Plan for Data Analysis

Once all the information is stored into the database the data will be analyzed on various folds to get closer picture in multiple ways. There will be several standard pictures which will be reflected in the analysis.

Plan for Dissemination of Research Results

Once the report is final the same will be disseminated to the funding agency, Ministry of Health, Institute of Medicine and other prominent organization. Similarly, a copy will be kept in the library of this hospital so that the prospective students could benefit from the research findings as well.

Plan for Utilization of the Research Findings (optional)

With the help of the report, Kanti Children's Hospital will have a good opportunity to improve the anesthetic services. Similarly, the students will be able to learn the facts and assert in their dissertation. Similarly, a small workshop will be organized to deliver on major findings of the research and seek more idea from prominent figures.

Work Plan (should include duration of study, tentative date of starting the project and work schedule / Gantt chart)

- a. Hire field supervisor --- 1st week
- b. Organize data ---- 20 days
- c. Focus Group --- 1 day
- d. Hire Data Manager --- 3rd week
- e. Store data in to the database --- 2 months
- f. Appoint a Research Officer --- (consultative base) --- 4 months
- g. Analyze data --- 1 month (draft)
- h. Write up --- 15 days
- i. Supervision of the draft write up 10 days
- j. Final Write up 5 days
- k. Report to NHRC
- 1. Workshop

Study area

The Kanti Children's Hospital, department of paediatric anaesthesia, Maharajgunj, Kathmandu, Nepal.

Expected Outcome of the research

- a. A comprehensive picture for the need of anesthesia service for paediatric surgical cases will surface
- b. Strategies to improve the ongoing paediatric anaesthesia will surface

Rationale / Justification

Research is an important program, which justifies the improvements and or necessary actions to be taken into consideration. Similarly, it helps the students to learn and project their ideas after learning the facts and figures. But due to lack of sufficient and standard database information the anesthesia department had been able to do little to improve the anesthetic scenario. Further it has hindered to plan to improve the services for the pediatric surgical cases. Therefore, if standard data bank can be maintained it will be very helpful to develop a better outlook and apply better room in upgrading the services among the infant and neonate who are in need of surgical services in this hospital.

Ethical Consideration

Regarding the human participants:

Human participants are required in this research various levels of human participants will be contributing / joining in this research program. As the nature of the research program needs semi-skilled and skilled human resources, it will be difficult to conduct the program without them. Data organizing, data storing and analysis with logistical support are human effort job and hence it is strongly justified that all the relevant human resources are necessary.

As many as 4 personal are required to successfully conduct the research program. All have important roles to function at different levels and at different period.

Depending upon the nature of responsibility, the frequency of the participant's involvement will differ. i. e. all will not be required to spend the same amount of time at one time

Field supervisor	: To organize data
Data Manager	: Store data into the data bank and assist in analyzing the data
Research Officer	: to analysis the data

Chapter 4

RESULTS AND DISCUSSION

Retrospective analysis of the status of anaesthesia services for paediatric patients is of interest. We have tried to search the literature concerning such analysis. But we failed to find any of such study done. So this will be the original study of anaesthesia services and will have lot of shortcomings. We have tried our best to analyze and interpret as first hand information about the research.

In the year 2059 (2002/2003) there were a total of 1380 cases conducted in Kanti Children's Hospital. In the previous years, 2057 (2000/2001) and 2058 (2001/2002) the numbers were 1493 and 1642 respectively.

The proposed research is divided into two sections. The first section dealt with the routine cases conducted within one Nepali calendar year 2059 (2002/2003). The second section will deal with the emergency cases conducted within that year.

There were 186 verities of diagnosis and presentations for which anaesthesia services were given in 11 different ways and combinations of anaesthesia in 1190 routine procedures.

There were 26 verities of diagnosis and presentations for which anaesthesia services were given in 9 different ways and combinations of anaesthesia in 190 emergency procedures.

The total number of Anaesthetic manpower involved were in the magnitude of two consultant anaesthesiologists, one specialist anaesthesiologist and one paediatrician cum resident anaesthesiologist and one staff nurse as nurse anaesthetic assistant.

The daily working schedules were 4 operating days with 2 academic days and 7 days a week emergency. The most of the emergency cases were got settled and are being conducted during routine list.

The analysis was carried out retrospectively to determine the various implications of record keeping for the development of our departmental activities in particular and anaesthesia departments in general.

PAEDIATRIC ANAESTHESIA SERVICES – Kanti Children's Hospital 2059 (2002/2003)

There were 1190 cases of routine anaesthesia services in the year 2059 (2002/2003). Out of these there were 186 varities of cases Table - 1.

Table -1 Alphabetical order of different types of surgical cases in routine anaesthesiaservices during the year 2059 (2002-2003).

	Diagno	sis	
•	1	Abdominal Mass	1
•	3	Abscess	309
•	4	Achalasia cardia	1
•	5	Anal stenosis	10
•	6	Appendicitis	7
•	7	ARM , post-PSARP	5
•	8	ARM + colostomy	6
•	9	ARM with HYPOSPADIUS	1
•	10	ARM with recto urethral fistula	1
•	184	Wilm's tumor	5
•	185	Wound Dehiscence	3
•	186	Wound infection - post op	1
•	Total -		1190

Table – 2 Showing frequently occurring cases and others.

Abscess	309
Ing Hernia	119
Rectal Polyp	88
Phimosis	47
Hydrocele	39
Cyst	38
Burn	25
Umbilical Polyp	21
HD	19
UDT	18
Vesical calculus	14
Foreign body	13
Tongue tie	12
HD with colostomy	12
Vaginal Synechia	11
Pleural effusion	11
Cystic Hygroma	11
Pyloric Stenosis	10
corn	10
Anal stenosis	10
Others	348
Total	1185

But, most of the cases were seen only once in two months or even once a year. So the most frequent cases were analyzed in depth. Other cases were grouped as others. Table - 2 Chart - 1



Chart - 1 Showing frequently occurring cases and others.

The chart and tables showed maximum cases of abscess -309, at different sites came for drainage. Second to that are inguinal hernias -119. Others -348, include interesting and rarer cases.

Table -3 Showing Sex distribution of cases

Sex distribution of cases	
Sex	Total
Female	371
Male	819
Total	1190

It is quite remarkable that the cases coming for the anaesthesia services were mainly male-. 819. The female children were only 371. This shows that there was male dominance in the presentation of the cases. Table -3, Chart -2



Chart-2 Showing Sex distribution of cases

Sex distribution of cases in order of frequency was analyzed. For any given case the frequency is always high in male - 819 in compare to female - 371 out of 1190. Table - 4

Diagnosis	Male	Female	Total
Abscess	177	132	309
Ing Hernia	104	15	119
Rectal Polyp	57	31	88
Phimosis	47	0	47
Hydrocele	39	0	39
Cyst	21	17	38
Burn	14	11	25
Umbilical Polyp	13	8	21
HD	17	2	19
UDT	18	0	18
Vesical calculus	13	1	14
Foreign body	10	3	13
HD with colostomy	10	2	12
Tongue tie	12	0	12
Cystic Hygroma	6	5	11
Pleural effusion	8	3	11
Vaginal Synechia	0	11	11
Anal stenosis	4	6	10
corn	6	4	10
Pyloric Stenosis	8	2	10
Others	232	118	344
Total	819	371	1190

Table - 4 Sex distribution of cases in order of frequency

Different type of anesthesia :

The total cases given anaesthesia for routine cases were shown in Appendix -1. There were 11 different ways and combinations of anaesthesia for 1190 routine cases. Table 5. The most frequent way of giving anaesthesia was IVA 47% and next GA 27% in routine procedures.

Table:5		
Operation patients with types of anaesthesia.		
	Frequency	Percent
Not specified	1	0.1
GA	322	27.1
IVA	570	47.9
LA	4	0.3
GA/IVA	1	0.1
IVA/Others	6	0.5
IVA/ CD	2	0.2
IVA/LA	36	3
IVA/LA/CD	1	0.1
GA/CD	8	0.7
GA/LA	184	15.5
GA/LA/CD	55	4.6
Total	1190	100

The 190 cases of emergency procedures were given anaesthesia by 9 different ways as shown in table –The table shows GA 128 (67.4%)as the most frequent of giving anaesthesia in contrast to IVA 31(16.3%).

Table - 6 Emergency patients and types of anaesthesia.			
	Frequency	Percent	
1 GA	128	67.4	
2 NA	31	16.3	
3 LA	3	1.6	
4 LA/Others	1	0.5	
5 GA/Others	1	0.5	
6 GA/IVA	16	8.4	
7 IVA/Others	1	0.5	
8 IVA/LA	3	1.6	
9 GA/CD	6	3.2	
Total	190	100	

Analysis of Paediatric Anaesthesia Services for routine cases KCH 2059 (2002/2003)

The present section deals with the routine anaesthesia procedure data analysis. The first section deal with the data on premedications, anaesthesia induction, intubations, muscle relaxants, analgesia, reversal and disposal of the cases to different wards and home. The second section deals with the analysis of the relation of above datas with age and weight, as these two factors have major impact on the delivery of safe paediatric anaesthesia services.

Different types of anesthesia

Table - 7	Anæsthesia	Total
1	GA	322
2	MA	570
3	LA	4
4	GA/IVA	1
5	IVA/Others	6
6	IVA/CD	2
7	IVALA	36
8	IVA/LA/CD	1
9	GA/CD	8
10	GA/LA	184
11	GA/LA/CD	55
Total		1190

The different types of anaesthesia were charted out in table and chart. The most common type of anaesthesia was IVA - 570 i.e. about 50% of the total cases. Next to that is GA with 322 cases followed by GA with LA and GA, LA and CD.

Chart – 3 Different types of anesthesia

Premedication

Premedication is not a routine procedure. But when given, pethidine was given as the main drug. Atropine has been used infrequent. Midazolam have not been used in many cases in the year 2059 (2002/2003).



Table : 7 A							
	Operation patients with premedication.						
		Atropine	Diazepam	Ket	Mid	Pethidine	Total
Nature of operation and premedication	Hemiotomy		1	1	2		4
			25.0%	25.0%	50.0%		100%
	Cauterization	1					1
		100.0%					100%
	Chest-tube drainage					1	1
						100.0%	100%
	Circumcision					6	6
						100.0%	100%
	Colostomy					2	2
						100.0%	100%
	Cystolithotomy					2	2
						100.0%	100%
	Debridement					1	1
						100.0%	100%
	Excision					2	2
						100.0%	100%
	I&D	4	1			23	28
		14.3%	3.6%			82.1%	100%
	Polypectomy	4				14	18
		22.2%				77.8%	100%
	Proctoscopy					1	1
						100.0%	100%
	Pull through Duhamel					1	1
						100.0%	100%
	Release					3	65
						100.0%	100%
	Removal	1					1
		100.0%					100%
	SSG					2	2
						100.0%	100%
Total		10	2	1	2	58	73
		13.7%	2.7%	1.4%	2.7%	79.5%	100%

Induction and types of anaesthesia

Table : 7 B						
	Induction with types of anaesthesia.					
Count						
			Induction		Total	
		Halo/Oxygen	Ket	STP		
Types of anaesthesia	GA	193	34	92	319	
	IVA	27	535	5	567	
	LA			3	3	
	GA/IVA		1		1	
	IVA/Others		6		6	
	IVA/CD		2		2	
	IVA/LA	2	32	2	36	
	IVA/LA/CD		1		1	
	GA/CD	4	1	3	8	
	GA/LA	122	12	50	184	
	GA/LA/CD	51	3	1	55	
Total		399	627	156	1182	

In table 7 B, the relationship of induction and types of anaesthesia has been established. The total number of cases was 1182.Out of this, IV induction is highest followed by Gas then in GA/LA combined. In IVA the ketamine induction was found to be highest. But in GA, halo / oxygen was highest.

Ketamin induction mostly used for I & D, anal dilatation, excision and removal of cyst, circumcision, chest tube drainage, polypectomy, release of tongue tie, cauterization of umbilical polyp, release of vaginal synechia. Induction with STP : In high ligation, I & D, anoplasty, debridment, skin grafting, excision of cyst, biopsy and colostomy, pull through duhamel, herniotomy, circumcision, poloromytomy were used.

Anaesthetic induction and diagnosis

Dia	agnosis and anaesthesia in	duction.		
Diagnosis	Halo/Oxygen	Ket	STP	Total
	33	1	5	39
Hydrocele	84.6%	2.6%	12.8%	100%
	32	273	3	308
abscess	10.4%	88.6%	1.0%	100%
	2	7	1	10
Anal stenosis	20.0%	70.0%	10.0%	100%
	19	3	3	25
Bum	76.0%	12.0%	12.0%	100%
		ę	1	10
corn		90.0%	10.0%	100%
	10	25	2	37
Cyst	27.0%	67.6%	5.4%	100%
	9	1	1	11
Cystic Hygroma	81.8%	9.1%	9.1%	100%
	10		9	19
HD	52.6%		47.4%	100%
	9		3	12
HD with colostomy	75.0%	1	25.0%	100%
	99	1	19	119
Ing Hernia	83.2%	0.8%	16.0%	100%
	4	40	J	47
Phimosis	8.5%	85.1%	6.4%	100%
	1	10		11
Pleural effusion	9.1%	90.9%	0	100%
	10.00/		9	10
Pyloric Stenosis	10.0%	01	90.0%	100%
	1	81		88
Rectal Polyp	8.0%	92.0%	1	100%
Tangua tia	F0 20/		9.20/	12
Tongue lie	30.3%	33.3%	0.3% 5	100%
LIDT	12 66 70/	F 69/	27.00/	100%
001	00.7%	5.0%	27.8%	100%
Line billio e L De han	00.00/	16		21
Umbilical Polyp	23.8%	16.2%		100%
	0.10/	10		100%
	9.1%	90.9%	2	100%
	95 70/		1/ 20/	14
	00.7% 272	482	14.3% 67	100% 822
Total	213	58.6%	8.2%	100%
l IOtal	33.∠%	50.0%	0.2%	100%

Table 8 shows the relationship between anaesthetic induction and diagnosis. Ketamine (58.6%), followed by Halothane /Oxygen then STP(8.2%) among 822 cases were used for induction.

Patients on MASK

The gaseous inductions were all done through the anaesthetic face masks. There are no definitive records of any case conducted under mask only.

Patients on SPONTANEOUS VENTILLATION

Almost all the cases conducted under IVA were on spontaneous respirations. Other GA cases may also have been conducted under spontaneous respirations. No clear cut record is available.

Patients on TIVA

Diagnosi	s and IVA services
abscess	283
Anal stenosis	6
Burn	1
corn	10
Cyst	24
Cystic Hygroma	2
HD with colostom	1
Ing Hernia	1
Phimosis	31
Pleural effusion	10
Rectal Polyp	76
Tongue tie	4
Umbilical Polyp	15
Vaginal Synechia	8
Total	472

Table 9 : shows top nineteen cases with anaesthesia service for operations , and shows IVA for different cases 472 cases got IVA ,out of which 283 abscesses(about 50% cases) got IVA services.

	Diagnosis	s, operation and IVA.	i
Diagnosis			IVA
			Yes
abscess	Nature of operation	EUA	2
		Excision	1
		1&D	279
		Needle Aspiration	1
	Total		283
Anal stenosis	Nature of operation	Aspiration	1
		Chest-tube drainage	1
		Dilatation	3
		1 & D	1
	Total		6
Burn	Nature of operation	Skin Grafting	1
	Total		1
corn	Nature of operation	Excision	10
	Total		10
Cvst	Nature of operation	Clean	1
		Drainage	1
		Excision	18
		FAVAC	10
		Removal	
	Total	Removal	24
Custia Hygroma	Noturo of operation	Piopov	
		Ini OK422 inter loision	
	Total	Inj OK432 Inter leision	
LID with colorator	I Oldi		2
HD with colosion	Nature of operation	EUA + Anai Dilatation	
	Total		1
Ing Hernia	Nature of operation	Herniotomy	1
6	lotal		1
Phimosis	Nature of operation	Circumcision	29
		Dilatation	1
		EUA	1
	Total		31
Pleural effusion	Nature of operation	Chest-tube drainage	10
	Total		10
Rectal Polyp	Nature of operation	EUA	1
		Polypectomy	74
		Proctoscopy	1
	Total		76
Tongue tie	Nature of operation	Release	4
	Total		4
Umbilical Polyp	Nature of operation	Cauterization	13
		Polypectomy	2
	Total		15
Vaginal Synechia	Nature of operation	Release	5
		Separation	3
	Total		8

Table - 10

In table 10 : shows top nineteen cases with anaesthesia service for operations, with diagnosis, type of operation and IVA (intra Venus anaesthesia) are correlated. IVA was used most frequently. as for high ligation, and in abscess for I & D. Then secondly, IVA was used in rectal polyp for polypectomy in cyst for excision, in phimosis for circumcision. In other cases total IVA were used occasionally.

Local Anaesthesia

Patients on ILIO-INGUAINAL BLOCK Patients on PENIAL BLOCK

Table 11	
Diagnosis and	LA services.
Hydrocele	39
abscess	3
Anal stenosis	1
corn	1
Cyst	1
HD	1
Ing Hernia	115
Phimosis	41
Pyloric Stenosis	10
UDT	18
Vesical calculus	14
Total	244

In table 11 : shows top nineteen cases with anaesthesia service for operations, and Cases receiving LA along with GA. The total of only 244 cases obtained the LA. LA was common among inguinal hernia followed by hydrocele. Local anaesthesia was given in the form of IIIH nerve block, Penile block, local infiltration, etc.

Patients on LMA ?

No case has been conducted under LMA in the whole year 2059 (2002/2003)

Patients on CAUDAL BLOCKS

Table 12

Diagnosis and CD services.					
Hydrocele	17				
Cyst	3				
Ing Hernia	27				
Phimosis	4				
UDT	5				
Vesical calculus	1				
Total	57				

In table 12 : shows out of top nineteen cases with anaesthesia service for operations , distribution of CD for different cases . Only 57 cases received CD services. CD was most common in Ing. Hernia and hydrocele.

		Table 13	
	Diagnosi	s , operation and CD.	
			Yes
Hydrocele	Nature of operation	High ligation	17
	Total		17
Cyst	Nature of operation	Excision	1
		Lapratomy	1
		Nephrectomy	1
	Total		3
Ing Hernia	Nature of operation	Herniotomy	27
	Total		27
Phimosis	Nature of operation	Circumcision	4
	Total		4
UDT	Nature of operation	Orchidopexy	4
		Orchidopexy + Herniotomy	1
	Total		5
Vesical calculus	Nature of operation	Cystolithotomy	1
	Total		1

Table 13 : shows out of top nineteen cases with anaesthesia service for operations, shows the relation of diagnosis, operation and caudal block (CD). CD is applied in only 6 types of cases out of 19 types of operation. It was used most frequently in inguinal - hernia for herniotomy then in hydrocele for high ligation. And it was used for circumcision and orchiodopexy also.

Patients on muscle relaxants :

Table : 14 Relaxant with types of anaesthesia

Anaesthesia	Relaxant			Total
	SUX & PAV	PAV	SUX	
GA	37	5	47	89
NA	2		1	3
IVA/LA			1	1
GA/LA	1		58	59
GA/LA/CD	1		12	13
Total	41	5	119	165

In table 14, relationship between relaxant and types of anaesthesia has been shown.

Out of 119 cases relaxant were used highest in GA followed by GA + LA. In GA, SUX only and mixed SUX and PAV are almost in the same number. But in GA + LA, the SUX only used mostly.

Diagnosis and anaesthesia with relaxantes								
Diagnosis	SUX & PAV	PAV	SUX	Total				
			6	6				
Hydrocele			100%	100%				
-			1	1				
Anal stenosis			100%	100%				
		1		1				
Burn		100%		100%				
	2		3	5				
Cyst	40%		60%	100%				
	4	1	7	12				
HD	33.3%	8.3%	58.3%	100%				
	5		1	6				
HD with colostomy	83.3%		16.7%	100%				
	3		33	36				
Ing Hernia	8.3%		91.7%	100%				
			1	1				
Phimosis			100%	100%				
			4	4				
Pyloric Stenosis			100%	100%				
			2	2				
Tongue tie			100%	100%				
			7	7				
UDT			100%	100%				
			6	6				
Vesical calculus			100%	100%				
	14	2	71	87				
Total	16.1%	2.3%	81.6%	100%				

Table 15

In table 15 : shows top nineteen cases with anaesthesia service for operations, the combination between anaesthesia and relaxants for intubations with diagnosis of disease was shown in 87 cases. Out of these 81.6% used suxamethonium

Table : 16 Operation patients with relaxant

ISUX &		1	l
PAV	PAV	SUX	Total
2		30	32
6.30%		93.80%	100.00%
		6	6
		100.00%	100.00%
		6	6
		100.00%	100.00%
1		1	2
50.00%		50.00%	100.00%
		1	1
		100.00%	100.00%
4	1	6	11
36.40%	9.10%	54.50%	100.00%
		1	1
		100.00%	100.00%
		6	6
		100.00%	100.00%
	1		1
	100.00%		100.00%
		1	1
		100.00%	100.00%
1		2	3
33.30%		66.70%	100.00%
		1	1
		100.00%	100.00%
		3	3
		100.00%	100.00%
1			1
100.00%			100.00%
1			1
100.00%			100.00%
		1	1
		100.00%	100.00%
2			2
100.00%			100.00%
2			2
100.00%			100.00%
		4	4
		100.00%	
		2	2
14	2	100.00%	100.00%
16 10%	2 30%	81 60%	100 00%
	SUX & PAV 2 6.30% 1 1 50.00% 4 36.40% 4 36.40% 1 1 33.30% 1 1 33.30% 1 1 100.00% 1 100.00% 2 100.00% 2 100.00% 2 100.00%	SUX & PAV PAV 2 - 6.30% - 1 - 50.00% - 1 - 50.00% - 4 1 36.40% 9.10% - - 4 1 36.40% 9.10% - - 1 100.00% - - 1 - 33.30% - 1 - 100.00% - 1 - 100.00% - 2 - 100.00% - 2 - 100.00% - 2 - 100.00% - 2 - 100.00% - 2 - 100.00% - 1 - 100.00% - 1 - 100.00% - 1 <td>SUX & PAV PAV SUX 30 6.30% 93.80% 6. 100.00% 1 6 100.00% 6 1 100.00% 1 100.00% 1 50.00% 1 1 50.00% 50.00% 1 100.00% 4 1 50.00% 54.50% 1 100.00% 4 1 36.40% 9.10% 54.50% 1 100.00% 6 1 100.00% 1 100.00% 1 100.00% 1 100.00% 1 1 2 33.30% 1 100.00% 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 <</td>	SUX & PAV PAV SUX 30 6.30% 93.80% 6. 100.00% 1 6 100.00% 6 1 100.00% 1 100.00% 1 50.00% 1 1 50.00% 50.00% 1 100.00% 4 1 50.00% 54.50% 1 100.00% 4 1 36.40% 9.10% 54.50% 1 100.00% 6 1 100.00% 1 100.00% 1 100.00% 1 100.00% 1 1 2 33.30% 1 100.00% 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 100.00% 1 1 <

Reversal Table: 17 Reversal with types of a naesthesia

	Types	Types of anaesthesia				
Reversal	GA	IVA	GA/CD	GA/LA		
N0.15+A0.075	9				9	
N0.45+A0.25	4				4	
N1.5+A0.6	4				4	
N0.35+A0.175	8				8	
N0.45+A0.2	14		1		15	
N0.8+A0.4	7				7	
N1.25+A0.6	7				7	
N1.25+A0.6	5				5	
GIVEN	70	2	3	1	76	
Total	128	2	4	1	135	

The use of reversal for nondepolarizing muscle relaxant is noted in 135 cases. Most of the cases were with GA services. Table -17. The cases given reversal at the end of operation were noted for selective cases. Table -18

Table 18

Diagnosis and anaesthesia with reversal.

Diagnosis	N0.15+A0.075	N0.45+A0.25	N1.5+A0.6	N0.35+A0.175	N0.45+A0.2	N0.8+A0.4	N1.25+A0.6	N1.25+A0.6	GIVEN	Total
				1						1
abscess				100.0%						100%
									1	1
Burn									100.0%	100%
									4	4
Cyst									100.0%	100%
									1	1
Cystic Hygroma									100.0%	100%
	2	1		1		1			4	9
HD	22.2%	11.1%		11.1%		11.1%			44.4%	100%
			1				1	1	7	10
HD with colostomy			10.0%				10.0%	10.0%	70.0%	100%
									1	1
Ing Hernia									100.0%	100%
				1	1					2
Rectal Polyp				50.0%	50.0%					100%
	2	1	1	3	1	1	1	1	18	29
Total	6.9%	3.4%	3.4%	10.3%	3.4%	3.4%	3.4%	3.4%	62.1%	100%

Patients on INTUBATION

	Туре	s of anaesthesi	Total	
ETT in mm	GA	GA/LA	GA/LA/CD	
2.5	1			1
3	1			1
3.5	3			3
4	2			2
4.5	2	1	3	6
5	2		9	11
5.5		1	2	3
6	1	1	1	3
6.5	3	3		6
7	2	2	1	5
7.5	2	1		3
	19	9	16	44

Table: 19 ETT with types of anaesthesia.

ETT of all seizes were used as low down as 2.5 mm to 7.5 mm. For all GA cases with different anaeshetic techniques ETT is used regularly. The maximum number of tubes used was of number 5. The use of ETT for different diagnosis Table 12 appendix – 15,operations also have been analyzed Table 19.

Patients on IPPV

Use of IPPV has not been analyzed separately. Almost all the cases on nondepolariser were manually ventilated. Other cases on ETT have some degree of assisted ventilation almost invariably.

Analgesia and anaesthe sia

Table 20

Diagnosis	Caudal	IIIH	Ket	LA	Nitrous	Peth	PNB	Total
	1				1		4	
Hydrocele	16.7%				16.7%		66.7%	10
			78	1				
abscess			98.7%	1.3%				10
	1		1			1		
Anal stenosis	33.3%		33.3%			33.3%		10
			10			12		
Burn			45.5%			54.5%		10
			2	1				
corn			66.7%	33.3%				10
	1		4	1		6		
Cyst	8.3%		33.3%	8.3%		50.0%		10
						3		
Cystic Hygroma						100.0%		10
	4					13		
HD	23.5%					76.5%		10
	2		1			8		
HD with colostomy	18.2%		9.1%			72.7%		10
	13	7					23	
Ing Hernia	30.2%	16.3%					53.5%	10
	2		4				7	
Phimosis	15.4%		30.8%				53.8%	10
				1				
Pleural effusion				100.0%				10
				4				
Pyloric Stenosis				100.0%				10
			28			2		
Rectal Polyp			93.3%			6.7%		10
			3			1		
Tongue tie			75.0%			25.0%		10
	4	2					1	
UDT	57.1%	28.6%					14.3%	10
			2					
Umbilical Polyp			100.0%					10
			2					
Vaginal Synechia			100.0%					1(
	4					3		
Vesical calculus	57.1%					42.9%		1(
	32	9	135	8	1	49	35	
Total	11.9%	3 3%	50.2%	3.0%	0.4%	18.2%	13.0%	1(

In table 20 : shows top nineteen cases with anaesthesia service for operations, the types of analgesic used in different types of cases shown.

Among different types of analgesia commonly used,

- I caudal,
- II ketamine
- III pethidine IV IIIHB
- V LI use less.

Table : 21 Analgesic with types of anaesthesia

	Types of anaesthesia							Total
Analgesia	GA	IVA	LA	IVA/LA	GA/CD	GA/LA	GA/LA/CD	
Caudal	22	4		1	1	15	14	57
IIIH						9		9
Ket	23	142		2		2		169
LA	4	8	1			4		17
Nitrous							1	1
Peth	171	4			6	7		188
PNB		1		7		28		36
Total	220	159	1	10	7	65	15	477

From table 21, the relationship between types of analgesic and anaesthesia were shown. Out of the cases with anaesthesia & analgesia, pethidine were mostly used in GA and ketamine was used in IVA.

Use of analgesia in anaesthesia for different types of operation in different diseases has been described.

CD : High ligation, Dilatation for anal stenosis, Laparotomy in cyst, Anoplasty, Biopsy and colostomy for HD, PSARP , Duhamel Pull through in HD with colostomy, Herniotomy, Nephrolithotomy ,circumcision. IIIHB, LA, nitrous oxide and PNB are used rarely, Ketamine used Frequently for I &D, circumcision, polypectomy.

Pethidine: skin grafting, excision of cyst, colostomy in HD and duhamel pull through and colostomy in HD with colostomy.

Patients with IV FLUID

Diagnosis and anaesthesia with drips.								
Diagnosis	5D+0.2NS	DNS	NS	R/L	Total			
	19	12		2	33			
Hydrocele	57.6%	36.4%		6.1%	100%			
	1	1			2			
abscess	50.0%	50.0%			100%			
	1				1			
Anal stenosis	100.0%				100%			
	2	3		5	10			
Burn	20.0%	30.0%		50.0%	100%			
				1	1			
corn				100.0%	100%			
		2	2		4			
Cyst		50.0%	50.0%		100%			
	3	1			4			
Cystic Hygroma	75.0%	25.0%			100%			
	10				10			
HD	100.0%				100%			
		3		2	5			
HD with colostomy		60.0%		40.0%	100%			
	56	22	7	5	90			
Ing Hernia	62.2%	24.4%	7.8%	5.6%	100%			
	2	16	1	13	32			
Phimosis	6.3%	50.0%	3.1%	40.6%	100%			
	6				6			
Pyloric Stenosis	100.0%				100%			
	2				2			
Rectal Polyp	100.0%				100%			
	1	1			2			
Tongue tie	50.0%	50.0%			100%			
	6	3	1	3	13			
UDT	46.2%	23.1%	7.7%	23.1%	100%			
	2	5	1		8			
Vesical calculus	25.0%	62.5%	12.5%		100%			
	111	69	12	31	223			
Total	49.8%	30.9%	5.4%	13.9%	100%			

Table 22

Table 22 shows IV fluids Used.

Dextrose 5% + 0.2 NS , DNS followed by NS and R/L. Table – 23

Drip with types of anaesthesia also was analyzed Table - 23. There are no significant findings in the use of IV fluid in any specific case and operations Table -22 & 24.

Table : 23 Drip with types of anaesthesia

Types of anaesthesia	Drip		Total		
	5D+0.2NS	DNS	NS	R/L	
GA	68	35	5	20	128
MA	4	3		2	9
LA				3	3
IVA/ CD		1			1
IVA/LA	1	8	1	9	19
IVA/LA/CD		1			1
GA/CD	2	3		2	7
GA/LA	59	43	10	13	125
GA/LA/CD	39	11	2	1	53
	173	105	18	50	346

Table : 24 Operation patients with drips given.

	-				
	5D+0.2NS	DNS	NS	R/L	
Herniotomy	56	22	7	5	90
	62.20%	24.40%	7.80%	5.60%	100.00%
High ligation	19	12		2	33
	57.60%	36.40%		6.10%	100.00%
Orchidopexy	5	2	1	2	10
	50.00%	20.00%	10.00%	20.00%	100.00%
Anoplasty	1				1
	100.00%				100.00%
Biopsy	3				3
	100.00%				100.00%
Circumcision	2	16	1	12	31
	6.50%	51.60%	3.20%	38.70%	100.00%
Colostomy	10				10
	100.00%				100.00%
Cystolithotomy	2	5	1		8
	25.00%	62.50%	12.50%		100.00%
Debridation &					
Skin Grafting		1			1
		100.00%			100.00%
Dilatation				1	1
				100.00%	100.00%
Excision			2	1	3
			66.70%	33.30%	100.00%
Fluid Aspiration	1				1
	100.00%				100.00%
Heller's					
myotomy	1				1
	100.00%				100.00%
I&D	1	1			2
	50.00%	50.00%			100.00%
Inj OK432 inter		1			1

%	49.80%	30.90%	5.40%	13.90%	100.00%
Total	111	69	12	31	223
				100.00%	100.00%
SSG				1	1
	14.30%	28.60%		57.10%	100.00%
Skin Grafting	1	2		4	7
	100.00%				100.00%
Sclerotherapy	1				1
	50.00%	50.00%			100.00%
Release	1	1		1	2
<u> </u>	100.00%			1	100.00%
Ramstad's	1				1
	100.00%				100.00%
Pyloromyotomy	4				4
		60.00%		40.00%	100.00%
Duhamel		3		2	5
Pull through					
<u>,</u>	50.00%			50.00%	100.00%
Orchidopexy +	1			1	2
		100.00%			100.00%
Orchidectomy		100.00%			100.00%
Nephrectomy	100.00%	1			100.00%
Debridment	1	100.00%			100.00%
Lapratomy		100.00%			100.00%
lesion					

Patients with SICU SERVICES

Table 25

	SICU
Herniotomy	1
Anoplasty	1
Biopsy	3
Colostomy	12
Excision	1
Lapratomy	1
Nephrectomy	1
Nephrolithotomy	1
PSARP	2
Pull through Duhamel	3
Pyloromyotomy	7
Ramstad's operation	1
Separation	1
	35

Above Table 25 - Shows nature of operation and transfer to SICU. The most common cases transfer to SICU was cases of Colostomy.

Patients on BLOOD TRANSFUSION

No records were available about blood transfusion in OT, for analysis

Transfer of Patients Post - anaesthetic : Outpatient anesthesia

Table : 26 postoperative transfers to different departments with types of anaesthesia

Not specified	Transfer	Home/Recovery room	1
	Total		1
GA	Transfer	Burn ward/Recovery room	24
		Home/Recovery room	79
		Medical ward/Recovery room	8
		PO ward/Recovery room	41
		Surgical ward/Recovery room	70
		SICU	100
	Total		322
NA	Transfer	Home/Recovery room	514
		Medical ward/Recovery room	18
		Obs/Recovery room	1
		PO ward/Recovery room	2
		Surgical ward/Recovery room	33
		SICU	2
	Total		570
LA	Transfer	Medical ward/Recovery room	1

		Surgical ward/Recovery room	3
	Total		4
GA/IVA	Transfer	Home/Recovery room	1
	Total		1
IVA/Others	Transfer	Home/Recovery room	6
	Total		6
IVA/ CD	Transfer	Home/Recovery room	2
	Total		2
IVA/LA	Transfer	Home/Recovery room	11
		Surgical ward/Recovery room	25
	Total		36
IVA/LA/CD	Transfer	Surgical ward/Recovery room	1
	Total		1
GA/CD	Transfer	PO ward/Recovery room	1
		Surgical ward/Recovery room	3
		SICU	4
	Total		8
GA/LA	Transfer	Home/Recovery room	5
		PO ward/Recovery room	7
		Surgical ward/Recovery room	160
		SICU	12
	Total		184
GA/LA/CD	Transfer	Home/Recovery room	5
		Surgical ward/Recovery room	50
	Total		55
	Transfer	Burn ward/Recovery room	24
		Home/Recovery room	624
		Medical ward/Recovery room	27
		Obs/Recovery room	1
		PO ward/Recovery room	51
		Surgical ward/Recovery room	345
		SICU	118
	Total		1190

The total cases in OT for anaesthesia were brought from different departments and OPD, they were disposed from the OT to different areas. More than 50% of the cases were sent home the same day. About 10% of the cases were sent directly to SICU. Maximum cases were sent Surgical ward. Only 5% of the cases were sent to postoperative ward.

Table : 27 ASA with types of anaesthesia.

Type of Anaesthesia	ASA				Total
	ASA				
	I	ASA II	ASA III	ASA IV	
Not specified	1	0	0	0	1
GA	207	77	32	6	322
NA	539	24	7	0	570
LA	3	0	1	0	4
GAIVA	1	0	0	0	1
IVA/Others	6	0	0	0	6
IVA/ CD	2	0	0	0	2
IVA/LA	36	0	0	0	36
IVA/LA/CD	1	0	0	0	1
GA/CD	6	2	0	0	8
GA/LA	174	10	0	0	184
GA/LA/CD	55	0	0	0	55
Total	1031	113	40	6	1190

Out of 1190 routine cases we had 1031 cases from ASA Grade -1. only 6 cases were from Grade - IV. So the results were certainly better. Table -27.

Age group of patients receiving paediatric anesthesia

Different age group of patients receiving paediatric anesthesia is of interest. The chart -4 and table - 28 shows the different age groups of patients receiving paediatric anaesthesia services. The maximum age group was of 1-5 years of age. The neonates were in average of 5 cases per month.



Chart-4 Different age group of patients receiving paediatric anesthesia

Table 28 - Different age group of patients receiving paediatric anesthesia

Table 28

	<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs	Total
Total	56	166	493	369	106	1190

In table 28 : shows top nineteen cases with anaesthesia service for operations , the relationship of age of patients and disease are shown. Most common age for majority of disease pattern are 15 years followed by age group 5-10 years. Adolescent and infant group were not so common.

Table 29

	Age with types of anaesthesia.							
Count								
			Age					
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs		
Types of anaesthesia	Not specified	0	0	0	1	0	1	
	GA	37	76	116	77	16	322	
	IVA	11	68	253	181	57	570	
	LA	0	0	1	2	1	4	
	GA/IVA	0	1	0	0	0	1	
	IVA/Others	0	0	1	3	2	6	
	IVA/ CD	0	0	1	1	0	2	
	IVA/LA	0	0	2	20	14	36	
	IVA/LA/CD	0	0	0	1	0	1	
	GA/CD	1	0	3	4	0	8	
	GA/LA	7	20	76	66	15	184	
	GA/LA/CD	0	1	40	13	1	55	
Total		56	166	493	369	106	1190	

Table 29 also shows relationship between age of patients and types of anaesthesia and its combination. Use of combined anaesthesia. IVA and LA are found in age group of more than one year. But GA + LA were found over all the age groups. Only GA or IVA were used in all age groups.
			50			
	age with	anaesthesia an	d induction.			
Count						
Age				Induction		Total
			Halo/Oxygen	Ket	STP	
<=28 days	Types of anaesthesia	GA	14	1	21	36
		IVA	1	10	0	11
		GA/CD	0	0	1	1
		GA/LA	1	0	6	7
	Total		16	11	28	55
29days-1 yr	Types of anaesthesia	GA	55	10	11	76
		IVA	9	58	1	68
		GA/IVA	0	1	0	1
		GA/LA	15	0	5	20
		GA/LA/CD	1	0	0	1
	Total		80	69	17	166
1.1-5 yrs	Types of anaesthesia	GA	87	13	16	116
		IVA	14	237	1	252
		IVA/Others	0	1	0	1
		IVA/ CD	0	1	0	1
		IVA/LA	2	0	0	2
		GA/CD	2	1	0	3
		GA/LA	68	2	6	76
		GA/LA/CD	38	2	0	40
	Total		211	257	23	491
5.1-10 yrs	Types of anaesthesia	GA	33	10	32	75
· · · · ·		IVA	1	176	3	180
		LA	0	0	2	2
		IVA/Others	0	3	0	3
		IVA/ CD	0	1	0	1
		IVA/LA	0	19	1	20
		IVA/LA/CD	0	1	0	1
		GA/CD	2	0	2	4
		GA/LA	35	8	23	66
		GA/LA/CD	12	1	0	13
	Total		83	219	63	365
>10 vrs	Types of anaesthesia	GA	4	0	12	16
		IVA	2	54	0	56
		LA	0	0	1	
		IVA/Others	0	2	0	
			0	13	1	14
		GA/LA	3	2	10	15
		GA/LA/CD	0	0	1	
	Total	0,00,00	0	71	25	10/

Table 30

Table 30 shows the relationship between the age, types of anaesthesia and methods of induction in total routine anaesthesia cases. In this relationship combined anaesthesia was high as the age of the patient increased. But the type of induction has no particular distribution.

	Tal	ble	3	1
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			10010 . 0	<u> </u>									
	age with ETT												
Count													
				Age			Total						
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs							
E.T.T.	2.5		1				1						
	3	1					1						
	3.5	3					3						
	4			2			2						
	4.5		1	5			6						
	5			8	3		11						
	5.5			2	1		3						
	6				2	1	3						
	6.5				3	3	6						
	7					5	5						
	11	2		1			3						
Total		6	2	18	9	9	44						

Table 31 shows top nineteen cases with anaesthesia service for operations showing the relationship between ETT sizes and age groups. This table shows higher ETT sizes as the age of the patient increases.

		age with	anaesthesia	and relaxa	knt.			
Count								
				Туре	s of anaest	thesia		Total
Age			GA	IVA	IVA/LA	GA/LA	GA/LA/CD	
<=28 days	Relaxant	SUX & PAV	2					2
		SUX	9			4		13
	Total		11			4		15
29days-1 yr	Relaxant	SUX & PAV	10					10
		SUX	11			4		15
	Total		21			4		25
1.1-5 yrs	Relaxant	SUX & PAV	14				1	15
		PAV	3					3
		SUX	16	1	1	31	7	56
	Total		33	1	1	31	8	74
5.1-10 yrs	Relaxant	SUX & PAV	11	2		1		14
		SUX	5			13	4	22
	Total		16	2		14	4	36
>10 yrs	Relaxant	PAV	2					2
		SUX	6			6	1	13
	Total		8			6	1	15

Table 32

Table 32 gives the relationship between age, types of relaxant and anaesthesia. There are no particular trends of relationship. SUX alone and combined SUX with PAV have similar distribution among age group in GA and GA + LA. Suxamethonium is still used extensively in paediatric anaesthesia, totaling 165 cases out of 165 cases. The use was not abandoned as no case has been reported to have malignant hyperthermia in this institute.

|--|

1			age wit	h anaesthe	sia and an	elgesia.				
Count										
					Туре	es of anaes	thesia			Total
Age			GA	IVA	LA	IVA/LA	GA/CD	GA/LA	GA/LA/CD	
<=28 days	Analgesia	Caudal	3							3
		Ket		3						3
		LA	1					4		5
		Peth	28				1			29
	Total		32	3			1	4		40
29days-1 yr	Analgesia	Caudal	4	1				1		6
		IIIH						1		1
		Ket	8	14						22
		LA	2							2
		Peth	35	1				1		37
		PNB						1		1
	Total		49	16				4		69
1.1-5 yrs	Analgesia	Caudal	10				1	8	9	28
		IIIH						1		1
		Ket	8	55						63
		LA		3	1	1				4
		Nitrous							1	1
		Peth	60	2			2	3		67
		PNB				1		19		20
	Total		78	60	1	1 1	3	31	10	184
5.1-10 yrs	Analgesia	Caudal	3	1		1		6	4	15
		IIIH						5		5
		Ket	7	53		2	2	1		63
		LA	1	3						4
		Peth	37	1			3	2		43
		PNB				3	5	6		9
	Total		48	58		6	6 3	20	4	139
>10 yrs	Analgesia	Caudal	2	2					1	5
		ШН						2		2
		Ket		17				1		18
		LA		2						2
		Peth	11					1		12
		PNB		1		3	5	2		6
	Total		13	22		3	5	6	1	45

In table 33, the relationship among age, analgesic and type of anaetheisa is shown. The analgesic used in almost all age groups with GA, IVA and GA + LA. The use of analgesia for any given case is a challenge to the anaesthesiologist. The small babies do not demand analgesia and judicious use of the pain relief require the skill and knowledge of the subject. At different age groups, patients had analgesia by different ways and agents. Pethidine is the main drug for paediatric analgesia.

					1001	• • •						
				age	with anae	esthesia and	d drip.					
Count												
						Туре	s of anaes	thesia				Total
Age			GA	IVA	LA	IVA/ CD	IVA/LA	IVA/LA/CD	GA/CD	GA/LA	GA/LA/CE	
<=28 days	Drip	5D+0.2NS	22							4		26
		DNS	2						1			3
	Total		24						1	4		29
29days-1 yr	Drip	5D+0.2NS	16	1						16	1	34
		DNS	4									4
		R/L	1									1
	Total		21	1						16	1	39
1.1-5 yrs	Drip	5D+0.2NS	27				1		2	31	31	92
		DNS	16	2		1			1	12	5	37
		NS								1	1	2
		R/L	3								1	4
	Total		46	2		1	1		3	44	38	135
5.1-10 yrs	Drip	5D+0.2NS	3	2						8	7	20
		DNS	10	1			7	1	1	30	6	56
		NS	2							4		6
		R/L	12	1	2		2		2	8		27
	Total		27	4	- 2		9	1	3	50	13	109
>10 yrs	Drip	5D+0.2NS		1								1
		DNS	3				1			1		5
		NS	3				1			5	1	10
		R/L	4	1	1		7			5		18
	Total		10	2	1		9			11	1	34

Table 34

In table 34, relationship of age group, type of drip and anaesthesia are shown. There is no particular trend in these relations. There is data reflecting no use of any R/L up to the age offer four cases. The main use of I/V fluid is in the form of 5D + 0.2NS. Other fluids used were DNS and NS in all age groups.

		age with anae	esthesia and r	eversal.			
Count							
				Types of a	naesthesia	a	Total
Age			GA	IVA	GA/CD	GA/LA	
<=28 days	Reversal	N0.15+A0.075	8				8
		N0.45+A0.25	2				2
		GIVEN	6				6
	Total		16				16
29days-1 yr	Reversal	N0.15+A0.075	1				1
		N0.35+A0.175	6				6
		N0.45+A0.2	3				3
		N1.25+A0.6	1				1
		GIVEN	14				14
	Total		25				25
1.1-5 yrs	Reversal	N0.45+A0.25	2				2
		N1.5+A0.6	1				1
		N0.35+A0.175	2				2
		N0.45+A0.2	9		-	1	10
		N0.8+A0.4	4				4
		N1.25+A0.6	1				1
		GIVEN	30			1	31
	Total		49			2	51
5.1-10 yrs	Reversal	N0.45+A0.2	2				2
		N0.8+A0.4	3				3
		N1.25+A0.6	5				5
		N1.25+A0.6	4				4
		GIVEN	17	2	2	2 1	22
	Total		31	2	2	2 1	36
>10 yrs	Reversal	N1.5+A0.6	3				3
		N1.25+A0.6	1				1
		GIVEN	3				3
	Total		7				7

In table 35, relationship of age, reversal and type of anaesthesia are given. This distribution shows that reversal was given similarly in all age groups mainly with GA.

	a	ge with anaesthe	sia and ASA.				
Count							
				A	SA		Total
Age			ASA I	ASA II	ASA III	ASA IV	
<=28 days	Types of anaesthesia	GA	14	11	7	5	37
		IVA	10	1			11
		GA/CD		1			1
		GA/LA	3	4			7
	Total		27	17	7	5	56
29days-1 yr	Types of anaesthesia	GA	45	22	8	1	76
		IVA	62	6			68
		GA/IVA	1				1
		GA/LA	19	1			20
		GA/LA/CD	1				1
	Total		128	29	8	1	166
1.1-5 yrs	Types of anaesthesia	GA	80	27	9		116
		IVA	242	8	3		253
		LA			1		1
		IVA/Others	1				1
		IVA/ CD	1				1
		IVA/LA	2				2
		GA/CD	2	1			3
		GA/LA	72	4			76
		GA/LA/CD	40				40
	Total		440	40	13		493
5.1-10 yrs	Types of anaesthesia	Not specified	1				1
		GA	54	16	7		77
		IVA	172	6	3		181
		LA	2				2
		IVA/Others	3				3
		IVA/ CD	1				1
		IVA/LA	20				20
		IVA/LA/CD	1				1
		GA/CD	4				4
		GA/LA	65	1			66
		GA/LA/CD	13				13
	Total		336	23	10		369
>10 yrs	Types of anaesthesia	GA	14	1	1		16
		IVA	53	3	1		57
		LA	1				1
		IVA/Others	2				2
		IVA/LA	14				14
		GA/LA	15				15
		GA/LA/CD	1	1			1
	Total		100	4	2		106

In table 36, the distribution according to age group, type of anaesthesia and ASA grading is shown. This distribution number of cases by age to type of anaesthesia and ASA grading is found spreaded every cell except ASA IV. The maximum cases were conducted with ASA Grade I in almost all age group.

1000.11											
Patient's age and anaesthesia doctors involved in operation.											
Count											
		Anaethesia doctors									
		Consultant	Consultant/specialist/ PG students	Consultant/specialist/ PG students/intern students	Consultant/ PG students	Consultant/specialist/ intern students	Consultant/PG students /intern students				
Age	<=28 days	19	17	17	1		2	56			
	29days-1 yr	65	50	35	4	1	11	166			
	1.1-5 yrs	153	156	134	16	6	28	493			
	5.1-10 yrs	108	97	103	14	7	40	369			
	>10 yrs	33	37	20	7	3	6	106			
Total		378	357	309	42	17	87	1190			

Table 37 is for showing the age group of patient and type of anaesthetic doctors involved. This distribution according to age group does not show any particular trend. They are distributed in all age group. In all the age group the presence of consultant is a must for anaesthesia services. But some of the cases got anaesthesia services by only the consultants, irrespective to any age group.

Different weight group of patients receiving paediatric anesthesia

The routine cases getting paediatric anaesthesia services fall mostly on weight group above 5 Kg. Weight below 2.5 Kg. comes almost once a month. They are the one needing maximum care needing preoperative and post operative SICU care. Cases above 20 Kg are taken almost as an adult for practical purpose.

Table - 38 Different weight group of patients receiving paediatric anesthesia





Chart - 5 Different weight group of patients receiving paediatric anesthesia

Table : - 39 Weight with types of anaesthesia

	wt(kg)								Total
Types of anaesthesia	<1.5	1.5-2.5	3-5	5-10	10-15	15-20	20-25	>=25	
Not specified								1	1
GA	1	11	32	87	89	53	22	27	322
IVA		1	19	88	195	124	69	74	570
LA					1			3	4
GA/IVA				1					1
IVA/Others						2	1	3	6
IVA/ CD						1	1		2
IVA/LA					3	6	10	17	36
IVA/LA/CD							1		1
GA/CD			1	2	2	3			8
GA/LA		1	12	21	55	42	33	20	184
GA/LA/CD				4	32	16	2	1	55
Total	1	13	64	203	377	247	139	146	1190

Table - 39 Shows relation between weight and types of anaesthesia. No cases below 5 Kg. had anaesthesia of the type LA, GA/IVA, IVA/Others, IVA/ CD, IVA/LA and IVA/LA/CD. Full GA is given in almost all weight groups. Weight is specifically considered for its concern in dose management of drugs and fluid requirement of the patients. GA with LA was given in cases as low as above 1.5 Kg.

	weigh	t with anaesthes	sia and induction.			
Count						
wt(kgs)			lr	duction	•	Total
			Halo/Oxygen	Ket	STP	
<1.5	Types of anaesthesia	GA			1	1
	Total				1	1
1.5-2.5	Types of anaesthesia	GA	2	1	8	11
		IVA	0	1	0	1
		GA/LA	0	0	1	1
	Total		2	2	9	13
3-5	Types of anaesthesia	GA	17	2	13	32
		IVA	1	17	1	19
		GA/CD	0	0	1	1
		GA/LA	2	0	10	12
- 10	lotal		20	19	25	64
5-10	Types of anaesthesia	GA	66	9	12	87
			9	78	0	87
		GA/IVA	0	1	0	1
		GA/CD	1	1	0	2
		GA/LA	19	1	1	21
	T-4-1	GA/LA/CD	4	0	0	4
10.15			99	90	13	202
10-13		GA IV/A	12	192	13	105
			12	102		190
			2	1	0	2
		GA/LA	51	0	0	55
			30	2	4	32
	Total	UALACD	162	193	20	375
15-20	Types of anaesthesia	GA	29	11	11	51
10 20		IVA	4	118	2	124
		IVA/Others	0	2	0	2
		IVA/ CD	0	1	0	1
		IVA/LA	0	6	0	6
		GA/CD	1	0	2	3
		GA/LA	33	4	5	42
		GA/LA/CD	15	1	0	16
	Total		82	143	20	245
20-25	Types of anaesthesia	GA	7	3	12	22
		IVA	0	68	0	68
		IVA/Others	0	1	0	1
		IVA/ CD	0	1	0	1
		IVA/LA	0	10	0	10
		IVA/LA/CD	0	1	0	1
		GA/LA	12	3	18	33
		GA/LA/CD	2	0	0	2
	Total		21	87	30	138
>=25	Types of anaesthesia	GA	7	0	20	27
		IVA	1	71	1	73
			0	0	3	3
		IVA/Others	0	3	0	3
		IVA/LA	0	15	2	17
<u> </u>			5	4	11	20
	T - 4 - 1	GA/LA/CD	0	0	1	1
	liotal		13	93	38	144

Table 40 is to show the relationship between weight groups, types of anaesthesia and induction agent. In this table, it is found that higher the weight greater the combined anaesthesia. But use of the induction agents has no particular trend. Induction of anaesthesia was done with STP in weight group as low as below 1.5 Kg.

Table 41

			weight	with anaes	thesia and a	anelgesia.				
Count										
					Туре	es of anaes	thesia			Total
wt(kgs)			GA	IVA	LA	IVA/LA	GA/CD	GA/LA	GA/LA/CD	
<1.5	Analgesia	Peth	1							1
	Total		1							1
1.5-2.5	Analgesia	LA						1		1
		Peth	11							11
	Total		11					1		12
3-5	Analgesia	Caudal	3	1						4
		Ket	2	5						7
		LA						3		3
		Peth	22				1			23
	Total		27	6			1	3		37
5-10	Analgesia	Caudal	7					1		8
		ШН						1		1
		Ket	6	18						24
		LA	2	1						3
		Peth	46	1			2	1		50
		PNB						1		1
	Total		61	20			2	4		87
10-15	Analgesia	Caudal	9					7	6	22
		шн						1		1
		Ket	7	40						47
		LA	2	2	1					5
		Nitrous							1	1
		Peth	38	2			1	3		44
		PNB				1		17		18
	Total		56	44	1	1	1	28	7	138
15-20	Analgesia	Caudal	1	1		1	1	2	5	11
		Ket	6	36						42
		Peth	22				2	2		26
		PNB				1		5		6
	Iotal		-29	37		2	3	9	5	85
20-25	Analgesia	Caudal						5	2	
		IIIH						4		4
		Ket	2	18		1				21
		LA		2						2
		Peth	13			-				13
		PNB				2		2	-	4
05	Total		15	20		3	·	11	2	51
~=25	Anaigesia	Caudai	2	2			I		1	5
				05		L		3		3
		Ket		25		1		2		28
				3				L		3
		Peth	18	1		L	I	1		20
		PNB		1		3		3		7
	lotal		20	32		4	· I	9	1	66

In table 41, distribution according to weight group, analgesic and type of anaestheisa are given. As weight increases, all varieties of analgesia like caudal, IIIH nerve blocks, Ketamine, LA, pethidine and PNB were used in different types of anaesthesia like, GA, IVA, GA + CD, GA + LA and GA + LA + CD. Pethedine was the main analgesic drug in routine anaesthesia in all weight groups including the only case of below 1.5 Kg. babies.. The drug is given in terms of mg/kg body weight.

Weight with ETT

ETT is being calculated in terms of age of the patients. Here we are trying to correlate weight with the use of ETT as shown in Table 57. The table shows, Use of 2.5 mm ETT was in <1.5 Kg baby. Use of 3mm ETT was in patient with weight of 1.5-2.5 Kg. Baby of 2.5 - 5 Kg had 3.5 mm. tubes. Maximum use of tube seize was of 5mm tube in 10 - 20 Kg patients. Table 42.

Table : 42 Weight with ETT

E.T.T.	wt(kg)								Total
	<1.5	1.5-2.5	2.5-5	5-10	10-15	15-20	20-25	>=25	
2.5	1								1
3		1							1
3.5			3						3
4				2					2
4.5				2	4				6
5					5	6			11
5.5					1	1	1		3
6							2	1	3
6.5							3	3	6
7								5	5
7.5			2		1				3
Total	1	1	5	4	11	7	6	9	44

Weight with anaesthesia and premedication

Table : 4	3 weight with anaesthes	ia and prem	edication.					
Count								
wt(kg)			Premed.					Total
			Atropine	Diazepam	Ket	Mid	Pethidine	
3-5	Types of anaesthesia	GA	1				0	1
		IVA	1				1	2
	Total		2				1	3
5-10	Types of anaesthesia	GA					2	2
		IVA					2	2
	Total						4	4
10-15	Types of anaesthesia	GA	0			0	3	3
		IVA	3			0	13	16
		GA/LA	0			1	1	2
	Total		3			1	17	21
15-20	Types of anaesthesia	GA	1				2	3
		IVA	4				12	16
		GA/LA	0				1	1
	Total		5				15	20
20-25	Types of anaesthesia	GA	0		0	0	4	4
		IVA	2		0	0	5	7
		IVA/LA	0		0	0	2	2
		GA/LA	0		1	1	0	2
	Total		2		1	1	11	15
>=25	Types of anaesthesia	GA	0	0			1	1
		IVA	2	1			15	18
		IVA/LA	0	0			3	3
		GA/LA	0	1			1	2
	Total		2	2			20	24

Premedication is not a routine procedure in the department during the study period but when given, it is always given in terms of per kilogram body weight. Pethidine is given in almost all age group and most frequently. Atropine as described in the text books of paediatric anaesthesia is occasionally given as premedication. Table -43.

Weight with anaesthesia and induction.

Table : 4	4 weight with anaesthesia	and induction.				
Count						
wt(kg)			Induction			Total
			Halo/Oxygen	Ket	STP	
<1.5	Types of anaesthesia	GA			1	1
	Total				1	1
1.5-2.5	Types of anaesthesia	GA	2	1	8	11
		IVA	0	1	0	1
		GA/LA	0	0	1	1
	Total		2	2	9	13
3-5	Types of anaesthesia	GA	17	2	13	32
		IVA	1	17	1	19
		GA/CD	0	0	1	1
		GA/LA	2	0	10	12
	Total		20	19	25	64
5-10	Types of anaesthesia	GA	66	9	12	87
		IVA	9	78	0	87
		GA/IVA	0	1	0	1
		GA/CD	1	1	0	2
		GA/LA	19	1	1	21
		GA/LA/CD	4	0	0	4
	Total		99	90	13	202
10-15	Types of anaesthesia	GA	65	8	15	88
10 10			12	182	10	195
			2	102		3
			2	0	0	2
		GAULA	51	0	0	55
		GAILA/CD	30	2	4	30
	Tatal	GALACD	162	402	20	32
15 20			102	195	20	515
13-20	Types of allaestnesia	GA MA	29	110	2	124
		IVA IVA/Othoro	4	2	2	124
			0	2		2
			0			
			0	0		0
		GAVED		0		3
		GA/LA	33	4	5	42
		GALACD	15			10
			82	143	20	245
20-25	l ypes of anaesthesia	GA	1	3	12	22
			0	68		68
		IVA/Others	0	1	0	1
		IVA/CD	0	1	0	1
		IVA/LA	0	10	0	10
		IVA/LA/CD	0	1	0	1
		GA/LA	12	3	18	33
		GA/LA/CD	2	0	0	2
	Total		21	87	30	138
>=25	Types of anaesthesia	GA	7	0	20	27
		IVA	1	71	1	73
		LA	0	0	3	3
		IVA/Others	0	3	0	3

Total		13	93	38	144
	GA/LA/CD	0	0	1	1
	GA/LA	5	4	11	20
	IVA/LA	0	15	2	17

Weight is not directly related to induction except for the calculation of dose of drugs for induction. For any type of anaesthesia , induction may be done with STP, except for those with ketamine anaesthesia. Small babies with lower body weight may be induced with STP safely. Inhalational induction with oxygen and halothane is a standard technique of induction, where it is difficult to find out IV line in children. Table -44.

Weight with anaesthesia and relaxant.

Table - 45						
	Types	of anaes	thesia			Total
Relaxant	GA	IVA	IVA/LA	GA/LA	GA/LA/CD	
SUX	47	1	1	58	12	119
SUX & PAV	37	2	0	1	1	41
PAV	5	0	0	0	0	5
Total	89	3	1	59	13	165

Relaxants were used both for intubations as well as for relaxation during operation and keeping the patient on IPPV. Out of the total use of relaxants, suxamethonium is used invariably for intubations, i.e. 160 cases. Only 5 cases had pancuronium for intubations in over 10 Kg babies. Pancuronium is used as muscle relaxant after intubations in 41 cases for IPPV during operation. This is true in cases above3 Kg. babies.

			Т	able : 46	6			
weight w	ith anaesthes	ia and relaxant.						
Count								
			Types	s of anae	esthesia			Total
wt(kg)			GA	IVA	IVA/LA	GA/LA	GA/LA/CD	
<1.5	Relaxant	SUX	1					1
	Total		1					1
1.5-2.5	Relaxant	SUX	1			1		2
	Total		1			1		2
3-5	Relaxant	SUX & PAV	4					4
		SUX	9			3		12
	Total		13			3		16
5-10	Relaxant	SUX & PAV	11					11
		SUX	10			4		14
	Total		21			4		25
10-15	Relaxant	SUX & PAV	11					11
		PAV	3					3
		SUX	15		1	27	5	48

	Total		29		1	27	5	62
15-20	Relaxant	SUX & PAV	7	1			1	9
		SUX	2	1		8	4	15
	Total		9	2		8	5	24
20-25	Relaxant	SUX & PAV	3			1		4
		SUX				10	2	12
	Total		3			11	2	16
>=25	Relaxant	SUX & PAV	1	1				2
		PAV	2					2
		SUX	9			5	1	15
	Total		12	1		5	1	19

Table 46 gives the relationship among weight group, relaxant and anaesthesia. There is no particular trend. SUX alone and combined SUX + PAV have similar distribution among age groups in GA as well as GA + LA and GA + LA + CD.

		Table – 47 Types of anaesthesia										
Analgesia	GA	IVA	LA	IVALA	GA/CD	GA/LA	GA/LA/CD					
Peth	171	3	0	0	6	6	0	186				
Ket	23	142	0	2	0	2	0	169				
LA	4	8	1	0	0	4	0	17				
IIIH	0	0	0	0	0	9	0	9				
Caudal	22	4	0	1	1	15	14	57				
Nitrous												
oxide	0	0	0	0	0	0	1	1				
PNB	0	1	0	7	0	23	0	31				
Total	220	158	1	10	7	59	15	470				

Weight	with anaesthesia and analgesia.
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Analgesia during anaesthesia is given with reference to the weight of the patient. The above table showed the use of different agents and techniques and the types of anaesthesia. The same information is being analyzed in terms of different weight groups of the patients. Table -47 Pethidine is used extensively in all weight groups. The IVA is conducted with Ketamine. Caudal blocks were used where ever applicable. All sorts analgesia was used with GA and extensively. Table -48.

Count										
	<u> </u>		Туре	es of and	aesthe	sia	-r			Total
wt(kg)			GA	IVA	LA	IVA/LA	GA/CD	GA/LA	GA/LA/CD	
<1.5	Analgesia	Peth	1							1
	Total		1							1
1.5-2.5	Analgesia	LA						1		1
		Peth	11							11
	Total		11					1		12
3-5	Analgesia	Caudal	3	1						4
		Ket	2	5						7
		LA						3		3
		Peth	22				1			23
	Total		27	6			1	3		37
5-10	Analgesia	Caudal	7					1		8
		IIIH	1	Ì	Ì			1	1	1
	1	Ket	6	18		1	1	1	1	24
		LA	2	1			1	1		3
	1	Peth	46	1		1	2	1	1	50
		PNB						1		1
	Total		61	20			2	4		87
10-15	Analgesia	Caudal	9					7	6	22
	<u>_</u>	IIIH						1		1
		Ket	7	40						47
		LA	2	2	1					5
		Nitrous		_	-				1	1
		Peth	38	2			1	3		44
		PNB				1		17		18
	Total		56	44	1	1	1	28	7	138
15-20	Analgesia	Caudal	1	1		1		2	5	11
		Ket	6	36						42
		Peth	22				2	2		26
		PNB	+	1	1	1	+	5	1	6
	Total	1	29	37		2	3	9	5	85
20-25	Analgesia	Caudal				-	+	5	2	7
20 20							1	4	<u> -</u>	4
	1	Ket	2	18		1	1	† · · · · · · · · · · · · · · · · · · ·	1	21
	-			2		<u>'</u>				2
	-	Peth	13				+	1		13
	1	PNR	1.0			2	1	2	1	4
	Total		15	20		3	1	11	2	51
>=25	Analoesia	Caudal	2	2		- -	1	+ ••	1	5
20	7			-				3	<u> </u>	2
		Kot		25		1	-	2		22
	-			20				<u> </u>	1	20
	+	Doth	10	1			+	1		20
			10	1		2				20

Emergency Paediatric Anaesthesia 2059 (2002/2003)

Kanti Children's Hospital caters all the emergency surgical cases of age group 0-14 years that has come directly or referred from different institutes within and outside the valley. In the year 2059 B S (2003/2004), this department of paediatric anaesthesia catered 190 cases of emergency. There were 26 varieties of emergency surgical cases given service. The most common cases were Acute Appendicitis – 44, followed by intestinal obstruction – 39, injuries-18, abscesses – 14 and ano-rectal malformations -13. The other common cases of emergencies were Pyloric stenosis – 11, empyema thoraces – 10, and perforation peritonitis 9.The other rarer cases that occurred less than once in two months were, like challenging cases of Tracheo-oesophageal fistula – 4, hers rung's diseases – 4, Diaphragmatic hernia – 2 and Gastrochiasis – 1, Necrotizing Enterocolitis – 1, Omphalocoel with ARM – 1, Wilm's Tumor with Down's Syndrome – 1. The other rarer cases were Urethral stone – 4, Burst abdomen – 3, Foreign body – 2, Hernia – 2, and each case of Amputation, rectal prolapse, wound dehiscence and even inaccessible veins.

Table - 49

Emergency patients from different departments.									
	Frequency	Percent							
OPD	15	7.9							
SW	152	80							
SOPD	1	0.5							
MW	7	3.7							
SICU	6	3.2							
SPC	2	1.1							
Obs.	4	2.1							
Emergency	3	1.6							
Total	190	100							

Chart 5

1 The patients brought to OT from different wards and OPD. Maximum cases were brought from surgical ward 152 cases i.e. 80% after stabilizing. Only 3 out of 190 i.e. 1.6 % of cases were brought directly from emergency.



Table 49, shows the case from different departments, which have come for the emergency anaesthesia services. Maximum cases were from surgical ward. Cases from almost all departments were brought for emergency operation.

The patients brought to OT for Anaesthesia and operations were from different wards and OPD. Maximum cases were brought from surgical ward 152 cases i.e. 80% after stabilizing the case. Only 3 out of 190 cases i.e. 1.6 % of cases were brought to OT directly from emergency.

Emergency patients and sex distribution.			
	Frequency	Percent	
F	51	26.8	
М	139	73.2	
Total	190	100	

Chart 5 shows the sex wise distribution of emergency



cases. About three fourth cases were male.

Table 50 gives the sex wise distribution of emergency cases. About three fourth cases were male. It is quite remarkable that 139 cases i.e. 73.2% of the total cases were male chart -5.

Table 51					
Emergency patients a	Emergency patients and diagnosis.				
	Frequency	Percent			
Abscess	14	7.4			
Amputation	1	0.5			
Appendicitis	44	23.2			
ARM	13	6.8			
burst abdomen	3	1.6			
cyst	1	0.5			
Diaphragmatic Hernia	2	1.1			
Empyema Thorax	10	5.3			
Foreign body	2	1.1			
Gangrene	1	0.5			
Gastroschiasis	1	0.5			
Hernia	2	1.1			
Hirschprungs disease	4	2.1			
inacessible vein	1	0.5			
Injury	18	9.5			
Intestinal Obstruction	39	20.5			
Necrotising enterocolitis	1	0.5			
Omphalocoele+ARM	1	0.5			
Perforation peritonitis	9	4.7			
Pyloric stenosis	11	5.8			
Rectal prolapse	1	0.5			
TOF	4	2.1			
Urethral Stone	4	2.1			
Urethral Stone+ bladder stone	1	0.5			
wilm's tumor with Down's syndrome	1	0.5			
wound dehiscence	1	0.5			
Total	190	100			

Table 51, shows distribution of emergency patients according to their nature. About one fourth of the case were appendicitis, one fifth of the cases were intestinal obstruction. Ten percent cases were injury. Above 5% cases were abscess, ARM, empyema thorax, pyloric stenosis and perforation peritonitis. 190 cases of emergency anaesthesia services were given to 26 varieties of emergency surgical cases.

Table - 52 Emergency patients and consultant anaesthesiologist services.				
Frequency Percent				
	yes	190	100	

Table -	53
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Emergency patients and consultant with specialist anaesthesiologist services.						
Frequency Percent						
Valid	yes	133	70			
Missing	System	57	30			
Total		190	100			

Table - 54

Emergency (patients and col	nsultant with s	pecialist anaesthesiologist and PG students services.
		Frequency	Percent
Valid	yes	172	90.5
Missing	System	18	9.5
Total		190	100

Table -	55
---------	----

Emergency patients and no intern services.			
INTERN			
		Frequency	Percent
No		190	100

To make new table for 52, 53, 54, 55 combined

Types of doctor	Frequency	Proportion %
Consultant	190	100%
Consultant with specialist	133	70%
Consultant with specialist & PG students	172	90.5%

Joint administration of anaesthesia by consultant with specialists only is less that with specialist and PG students. In emergency operation with interns is not performed any cases.

Table - 56

Emergency patients and GA.			
Frequency Percent			
Valid	Yes	151	79.5
Missing	System	39	20.5
Total		190	100

Chart 6 shows out of 190 emergency cases, 151 cases occupying 79.5 % of total cases were given full GA services.



Table - 57

Emergency patients and IVA.			
Frequency Percent			
Valid	Yes	31	16.3
Missing	System	159	83.7
Total		190	100

Chart 7 shows 16.3% comprising of TIVA services totaling 31 cases out of 190 cases. (Table – 9)



Table - 58

Emergency patients and LA.				
Frequency Percent				
Valid	Yes	23	12.1	
Missing	System	167	87.9	
Total		190	100	

Chart 8

Local blocks like Ilio-inguinal and ilio hypo gastric nerve blocks, penile blocks and local infiltrations were given along with GA and or IVA were in 23 cases comprising of 12.1 percent.



Table - 59

Emergency patients and CD.				
Frequency Percent				
Valid	Yes	6	3.2	
Missing System 184 96				
Total		190	100	

Table – 59,

Caudal blocks have become the procedure of interest in routine practice. But in emergency situation, caudal blocks were given only in special cases. Only 6 cases i.e. 3.2 % of cases had caudal block along with General anaesthesia.



MAC services

Table - 60

Emergency patients and MAC.					
	Frequency Percent				
MAC	2	1.1			
Non	188	98.9			
total	190	100			

Chart-10 only 2 cases needed MAC services



Tables 56, 57, 58, 59, 60 shows,

Types of ana esthesia	Number of cases	Percent
GA	151	79.5%
IVA	31	16.3%
LA	23	12.1%
CD	6	3.2 %
MAC	2	1.1 %

Majority of emergency cases were operated with GA (79.5%). Only 16.3% of cases were performed by IVA and 12.1% of cases were done by using LA where CD & MAC were very nominal.



Majority of anaesthesia being conducted under General Anaesthesia i.e. 151 (79.5%). Intravenous anaesthesia was given in 31 cases i.e. 16.3%. Out of all the cases conducted, 23 cases 12.1% had local analgesia, 6 cases i.e. 3.2% had caudal analgesia and only 2 cases i.e. 1.1% had MAC services. Table 56, 57, 58, 59, 60.

Pre-medication

Eme	Emergency patients and premedications.				
	Frequency Percent				
	Midazolam	12	6.3		
	Diazopam	1	0.5		
	Total	13	6.8		
Missing	System	177	93.2		
Total		190	100		

In Chart 12 Relation between pre-medicatin and type of anaesthesia is shown. Use of midazolam was seen frequently in IVA. Diazepam was used very rarely i.e. in only one case. The emergency patients having premedication were in only 13 cases with midazolam -12 and diazepam -1



In table 61 pre-medication used in emergency operation is presented. Out of 190 cases only 13 (6.8%) cases have been pre-medicated. In pre-medication midazolam used frequently but in only one case diazepam was used. The premedication to the emergency cases was not a regular procedure. Only 13 cases i.e. 6.8% of the cases had premedication mainly with Midazolam except for one case who had diazepam. Chart – 12.

Induction

Table 62

Emergency patients and induction agents.				
	Frequency	Percent		
STP	125	65.8		
Ket.	42	22.1		
Halothene	1	0.5		
Awake	1	0.5		
Gaseous	20	10.5		
MAC	1	0.5		
Total	190	100		

Table 62 shows the distribution of types of induction agents.

Majority (65.8%) of cases STP was used followed by Ket (22.1%) then gaseous induction (10.5%) and other agents were used nominally. Induction of anaesthesia for paediatric emergency cases may be tricky. In this year, the maximum cases were induced with thiopentone sodium, 125 cases i.e. 65.8% of the total cases of190.The next common induction were done

with Ketamine 42 cases i.e. 22.1%.Gaseous induction with mask ere done in 21 cases i.e. 11%. Only one case was intubated without any induction agents and was done awake. Two cases had only MAC service.

Muscle Relaxants

Table - 63						
E	mergency patien	ts and relaxa	nts.			
		Frequency	Percent			
	SUX & PAV	57	30			
	SUX & NORE	32	16.8			
	Nore	4	2.1			
	PAV	3	1.6			
	SUX	45	23.7			
Total 141 7						
Missing	sing System 49 25					
Total		190	100			

In table 63 distributions of Use of muscle relaxants are shown. Out of 190 cases 74.2% of cases got relaxants. SUX and PAV were used most frequently (30.0%), then followed by SUX only (23.7%) and then SUX and NORE (16.8%). Single NORE and PAV were used minimal. Only Suxamethonium for intubations was given in 45 cases i.e. 23.7%. 87 cases i.e. 30% had intubations with suxamethonium followed by pancuronium for relaxation and 32 cases i.e. 16.8% had norcuron as the relaxant for maintenance. 4 cases 2.1% had intubating dose of norcuron and 3 cases 1.6% had pancuronium.

Analgesia

Table - 64					
Emerg	Emergency patients and analgesia.				
	Frequency Percent				
	Pathedine 117 61.6				
	Keta 1				
	Total 118 62.1				
Missing	System 72 37.9				
Total	Total 190 100				

In table 64, frequency of use of analgesia and its types are shown. The analgesia was received by 62.1% cases. Out of which 99.2% received pethidine. The cases given analgesia for operations were pethidine in117 cases i.e. 61.6% and ketamine was in only one case.

Mask Anaesthesia

Table - 65

Emergency patients and mask.					
Frequency Percent					
YES 7 3					
Missing	System	183	96.3		
Total 190 100					

Chart - 13 Out of 190 cases only 7 cases i.e.3.7% were conducted under mask anaesthesia.



In table 65, use of mask is presented. Out of 190 cases only in 3.7% cases only mask was used. Only 7 cases 3.7% were conducted under mask anaesthesia. Chart – 13

Nitrous Oxide

Emergency patients and N20.						
Frequency Percent Valid Percen						
Valid	Yes	35	18.4	100		
Missing	System	155	81.6			
Total		190	100			

Chart 14 shows out of 190 emergency cases, 151 cases occupying 79.5 % of total cases were given full GA services.



In table 66, use of N_2O in emergency operation is demonstrated. 18.4% of cases had N_2O administration. Nitrous oxide was not frequently used. 35 cases 18.4% had nitrous oxide.

Chart - 14.

Table - 67

Emergency patients and halothane.						
Frequency Percent Valid Percent Cumulative Perce					Cumulative Percent	
Valid	Yes	148	77.9	10	0 100	
Missing	System	42	22.1			
Total	Fotal 190 100					

In Chart 15, use of halothane in emergency operation is shown Out of the total cases 77.9% cases received halothane. Halothane is the main inhalation agent used. 148 cases had halothane anaesthesia.



In table 67, use of halothane in emergency operation is shown. Out of the total cases 77.9% cases received halothane. Halothane is the main inhalation agent used. 148 cases had halothane anaesthesia which comes to be 77.9% of the total emergency anaesthesia. Chart -15.

Reversal

Table - 68

Emergency patients and reversal.							
	Frequency Percent Valid Percent Cumulative Percen						
Valid	Reversed	75	39.47368	100	100		
Missing System 115 60.52632							
Total		190	100				

In table 68, frequency of use of reversal is presented. Out of total cases of 190, 39.5% received the reversal in emergency operations. Although 96 cases had nondepolarising muscle relaxants, only 75 0f them had reversal, and 21 cases were transferred to SICU and had ventilatory support.

Recovery

Table - 69

Emergency patients and recovery.				
		Frequency		
	Good	190		

Chart - 16 Almost all the emergency cases recovered from anaesthesia uneventfully



Table – 69 Recovery status of all cases was good after emergency operations. Almost all the cases recovered from anaesthesia uneventfully.

Emergency patients and operation

Table - 70

Emergency patients and operation.		
	Frequency	Percent
Abdominal closure	2	1.1
Amputation	1	0.5
Anoplasty	7	3.7
Appendicectomy	43	22.6
Colostomy	10	5.3
Cystolithotomy	5	2.6
Debridment	2	1.1
Exploration	3	1.6
Gastrostomy	1	0.5
Herniotomy	2	1.1
1 & D	15	7.9
IC drainage	10	5.3
Laparotomy	54	28.4
Ramsted's operation	11	5.8
Reduction & fixation	1	0.5
Repair	18	9.5
Thoracotomy ligation of fistula and end to end anastonosis	3	1.6
Venisection	1	0.5
wound closure	1	0.5
Total	190	100

In table 70, Type of emergency operations. The maximum number of operation done was laparotomy (28.4%), followed by appendicetomy (22.6) other significant operations were repair (9.5%), I & D (7.9%), Ramstad's operation (5.8%), colostomy (5.3%), Incision & drainage (5.3%) & Anoplasty (3.7%) The most common type of operation performed were laparotomy 54 i.e. 28.4% Appendicectomy 43 i.e. 22.6%.

Age

Table - 71

	Emergency patients and age.					
		Frequency	Percent			
Valid	<=28 days	39	20.5			
	29days-1 yr	32	16.8			
	1.1-5 yrs	41	21.6			
	5.1-10 yrs	50	26.3			
	>10 yrs	28	14.7			
	Total	190	100			

Table 71 Age group of patients brought for emergency operations. The distribution pattern in each class was almost similar. This shows that there is no significant distribution of age group in emergency operations. Although the maximum children with age group of5-10 years had emergency anaesthesia services 50 cases i.e. 26.3%, up to 28 days baby stands third - 39 cases i.e. 20.5%. The age distribution done conventionally in different groups were 29days to 1 year 32 cases i.e. 16.8%, 1 to 5 years 41 i.e. 21.6%, above 10 years 28 cases 14.7.

Weight

Table :72							
	Emergency patients and weight.						
Frequency Percent							
Valid	1.5-2.5	13	6.8				
	2.5-3	34	17.9				
	3-5	6	3.2				
	5 - 10	25	13.2				
	10-15	29	15.3				
	15-20	32	16.8				
	20-25	18	9.5				
	>=25	33	17.4				
	Total	190	100				

Table 72 Weight group of patients attended for emergency operations. The distribution of cases according to weight group is found similar. This distribution shows that there is no significant number of emergency cases in any weight group. The patients have been grouped in different weight groups. The under2.5 Kg babies were almost once a month -13 cases i.e. 6.8%. Maximum cases were in the weight group of; 2.5-3 Kg. above 25 Kg patients were only33 cases i.e. 17.4%.

Age and post operative transfer

	Emergency patients and age and postoperative trasfer.									
Count										
		Age(in yrs)					Total			
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs				
Transfer	MW				1	1	2			
	POW		1	4	5		10			
	Recovery	19	14	31	40	22	126			
	SICU	7	9	2		1	19			
	SW	1			2		3			
	Home			1			1			
Total		27	24	38	48	24	161			

Tał	ole -	73
1 ut		15

Table 73 gives the relation of transfer of the emergency patients and their age. There are no particular pattern of distribution, except for the patient transfer to SICU is of early age. In the management of the paediatric emergency anaesthetic management, post operative transfer of the cases has its meaning. The need of care of the patient post operatively is very crucial. Only 19 cases have been transferred to SICU directly. The patients below 1/year are mostly transferred to SICU. While majority of the cases had its stay in the recovery area. Only one case of emergency has been sent home directly from the operation theatre.

Weight and post operative transfer

Total		8	23	6	19	28	30	17	30	161
	Home						1			1
	SW		1				2			3
	SICU	2	5	2	6	2	2			19
	Recovery	6	17	3	12	22	22	15	29	126
	POW			1		4	3	2		10
Transfer	MW				1				1	2
		1.5-2.5	2.5-3	3-5	5-10	10-15	15-20	20-25	>=25	
		wt(kgs)								Total
Count										
		E	mergency p	patients and	l weight and	d postopera	tive trasfer.			
					Table	- /4				

T I	1 1		- 4	
Тa	hle	<u> </u>	14	

Table 74 gives the relation of weight of particular patient and post operative transfer of emergency cases. Patients send to SICU are of less weights and send to recovery are of more weights. Patients below 10 Kg were mostly transferred to SICU and are given special care.

Weight and premedication

Table - ´	75
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Emergency patients and weight and premedication.									
Count									
		wt(kgs)					Total		
		5-10	10-15	15-20	20-25	>=25			
Pre medicine	Midazolam	2	2	6	1	1	12		
	Diazopam			1			1		
Total		2	2	7	1	1	13		

Table 75, shows the relationship of weight of the emergency patients and pre-medication in operation. Diazepam and midazolam were the pre-medication. There is no any particular pattern of relation. Smaller babies below 5 Kg were not receiving any premedication.

Age and induction

Table -	76
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	Emergency patients and age and induction.								
Count									
		Age(in yrs)					Total		
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs			
Induction medicine	STP	34	19	18	33	21	125		
	Ket.	1	2	17	15	7	42		
	Halothene			1			1		
	Awake	1					1		
	Gaseous	2	11	5	2		20		
	MAC	1					1		
Total		39	32	41	50	28	190		

Table 76, is for showing the relationship between type of induction and age group of the patients. STP was used for induction in maximum cases and is evenly distributed in all age groups. Ketamine was used more in age group more than 1 year. Gaseous induction was used more in early age group. The small babies less than 28 days were almost all induced with STP. Maximum cases were induced with STP as almost all cases come in the theatre with IV line.

Weight and induction

			Emer	gency patie	nts and we	ight and inc	duction.			
Count										
		wt(kgs)								Total
		1.5-2.5	2.5-3	3-5	5-10	10-15	15-20	20-25	>=25	
Induction	rSTP	13	26	3	14	12	17	14	26	12
	Ket.		2		5	12	13	4	6	4
	Halothene					1				
	Awake		1							
	Gaseous		5	2	6	4	2		1	20
	MAC			1						
Total		13	34	6	25	29	32	18	33	19

Table - 77

Table 77 is for showing relationship of weight of the patients and induction. STP was used in all weight groups but Ketamine was used in heavier weight group. Gaseous induction was used in lighter weight group. The above statement for age and induction is true with fewer than 3Kg children.

Age and muscle relaxant

Table - 78

Emergency patients and age and relaxant.										
Count										
		Age(in yrs)					Total			
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs				
Relaxant	SUX & PAV	6	8	11	17	15	57			
	SUX & NORE	7	4	3	11	7	32			
	Nore		1	1	1	1	4			
	PAV	2				1	3			
	SUX	20	12	9	4		45			
Total		35	25	24	33	24	141			

In table 78 relationship of relaxant type and age of the patients for emergency operation have been shown. Single relaxant like SUX was used for lower age group but relaxant like SUX and PAV and SUX and NORE were used for all age groups. The muscle relaxants suxamethonium, Pancuronium and norcuron have been used in all age groups with equal frequency.

Weight and relaxant

Table - 79

	Emergency patients and weight and relaxant.											
Count												
		wt(kgs)								Total		
		1.5-2.5	2.5-3	3-5	5-10	10-15	15-20	20-25	>=25			
Relaxant	SUX & PAV	1	5		7	9	13	8	14	57		
	SUX & NORE	2	5	1	6	1	3	5	9	32		
	Nore				2				2	4		
	PAV		3							3		
	SUX	10	16	2	4	7	3	1	2	45		
Total		13	29	3	19	17	19	14	27	141		

In table 79, the weight of the patients and use of the relaxants were related. Lighter patients received single relaxant like SUX, or PAV in greater number of cases. Heavier group received mixed like SUX and PAV.The muscle relaxants suxamethonium, Pancuronium and norcuron have been used in all weight groups with equal frequency.

Age and Analgesia

Table - 80

Emergency patients and age and analgesia.										
Count										
		Age(in yrs)					Total			
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs				
Analgesia medicine	Pathedine	27	16	20	31	23	117			
	Keta		1				1			
Total		27	17	20	31	23	118			

Table 80 shows the relationship of analgesic used and age group the emergency cases. The distribution of cases getting pethedine as analgesic among different age group has been found similar.

Weight and Analgesia

Table - 81

Emergency patients and weight and analgesia.											
Count											
		wt(kgs)								Total	
		1.5-2.5	2.5-3	3-5	5-10	10-15	15-20	20-25	>=25		
Analgesia	Pathedine	11	18	2	16	14	16	13	27	117	
	Keta				1					1	
Total		11	18	2	17	14	16	13	27	118	

Table 81 shows the pattern of distribution of cases according to weight group and analgesia. Pathetic is used in almost all cases of emergency. Maximum use was found in the higher weight group. Pethidine is used freely in all age groups and all weight groups. Table 80 & 81.

Age and reversal

Table	_	82
1 4010		01

ו מטוס .דט											
	Emergency patients and age and reversal.										
Count											
		Age(in yrs)					Total				
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs					
Reversal	Reversed	5	12	13	23	22		75			
Total		5	12	13	23	22		75			

Table 82 is for showing the relation of reversal and the age group of emergency patients. Majority of cases getting reversal were in older age.Out of 15 babies below 28 days old, who had nondepolarising muscle relaxant, only 5 patients had reversal; next 10 were taken to SICU for ventilation.

Weight and reversal

Table - 83

Emergency patients and weight and reversal.										
Count										
		wt(kgs)							Total	
		1.5-2.5	2.5-3	5-10	10-15	15-20	20-25	>=25		
Reversal	Reversed	2	6	12	8	12	11	24	75	
Total		2	6	12	8	12	11	24	75	

Table 83 is for showing the relation of reversal and the weight group of the emergency patients. Majority of reversal were given in heavier group. Babies up to the weight of 3 Kgs, only 8 had the reversal and rest 8 was on ventilator in SICU.
Age and drip

Table - 84

	Emergency patients and age and drip.									
Count										
		Age(in yrs)					Total			
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs				
Drip	5D+0.2NS	8	13	3	1		25			
	DNS			4	3	2	9			
	R/L		1	2	6	5	14			
	DNS & RL	1				1	2			
Total		9	14	9	10	8	50			

In table 84 the relation of age group of patient and type of drip are shown. 5D + 0.2 NS were used in early age group and DNS alone, R/L were used for older age group. The use of Drips did not seem to be well recoded. However with the available data, the commonly used fluids were as maximum of 5D + 0.2 NS. But R/L and DNS also are used freely.

Weight and drip

Table - 85

	Emergency patients and weight and drip.									
Count										
		wt(kgs)								Total
		1.5-2.5	2.5-3	3-5	5-10	10-15	15-20	20-25	>=25	
Drip	5D+0.2NS	3	6	4	9	1	2			25
	DNS					2	3	2	2	9
	R/L		1		1	2	4	2	4	14
	DNS & RL		1						1	2
Total		3	8	4	10	5	9	4	7	50

In table 85 relation of type of drip and weight are shown. Mixed 5D + 0.2 NS and DNS + RL were used among low weight group. But DNS and R/L were used in higher weight group. For small babies even up to 1year and 10 Kg, 5D +0.2 NS has become the fluid of choice. Table 84 & 85.

Age	and	ETT
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Table - 86

	Emergency patients and age and ETT.										
Count											
		Age(in yrs)					Total				
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs					
E.T.T.	None	4	2	17	16	4	43				
	3	19	3	1			23				
	3.5	16	16				32				
	4		9	2			11				
	4.5		1	6			7				
	5			9	1		10				
	5.5			5	5		10				
	6			1	14	3	18				
	6.5		1		9	11	21				
	7				5	10	15				
Total		39	32	41	50	28	190				

Chart – 17 Correlation of ETT size with type of anaesthesia
All size of ETT was found in GA but in GA + IVA and GA +
CD, ETT size was found less. The use of ETT is analyzed and found used in 147 cases out of 190 emergency cases.



Table 86 shows the relation of ETT size and age group of the patient are shown. As the age increases size of ETT also increases. The use of endotracheal tubes has been well analyzed for different age groups. Below the age of 28 days no. 3 and 3.5 were used while 3 and 3.5 were used for children between 29 days up to 1 year. Maximum seize of tubes used were 6.5 and 7 for ages above 5 years. Chart – 17.

Weight and ETT

Total	1	13	24	6	25	20	32	2	13	10
	0.5						2		12	
	6.5		· ·			· · ·	2	7	12	21
	6		1			1	9	5	2	18
	5.5					3	7			10
	5				1	8	1			10
	4.5				3	4				7
	4			1	10					11
	3.5	6	17	2	6	1				32
	3	7	13	2		1				23
E.T.T.	None		3	1	5	11	13	4	6	43
		1.5-2.5	2.5-3	3-5	5-10	10-15	15-20	20-25	>=25	
		wt(kgs)								Total
Count										
			Eme	ergency pat	ients and w	eight and E	TT.			

Table – 87

Table 87 shows the relation of ETT size and weight group has been shown. There is a relationship between them. As the weight increases the size of ETT is also in increasing order. The use of endotracheal tubes has been well analyzed for different weight groups. The 3 and 3.5 mm tubes were used in the weight groups of up to 5 Kg. The seize of 6.5 - 7 mm tubes were used in patients above 20 Kg.

Operation and relaxant

Table - 88

	Emergency patients and	operation and re ^r	axaxnt				
Count		T					
		Relaxant					Total
		SUX & PAV	SUX & NORE	Nore	PAV	SUX	
Code operation	Abdominal closure		2				2
	Amputation				1		1
	Anoplasty	1				4	5
	Appendicectomy	20	16	2		5	43
	Colostomy	1	2			7	10
	Cystolithotomy					2	2
	Debridment	1				1	2
	Exploration	1					1
	Gastrostomy					1	1
	Herniotomy					1	1
	I&D	1					1
	Laparotomy	29	11	2	1	9	52
	Ramsted's operation					9	9
	Reduction & fixation					1	1
	Repair		1			4	5
	Thoracotomy ligation of fistula and end to end anastonosis	2			1		3
	Venisection	1					1
	wound closure					1	1
Total		57	32	. 4	3	45	141

Table 88, shows the relation between type of relaxant used and type of operation. In appendicectomy and laparatomy SUX + PAV and SUX + NORE were used frequently. Single SUX or PAV were used in other type of operations. The muscle relaxants were mainly used in anaesthetic procedure for appendicectomy, laparatomy and Ramstad's operations.

Operation and premedication

Table	_	89
Taure	_	02

Emergency patients and operation and premedication.								
Count								
		premedication.		Total				
		Midazolam	Diazopam					
Code oper Exploration		2		2				
	1 & D	3		3				
	IC drainage	3		3				
	Laparotomy	1		1				
	Repair	3	1	4				
Total		12	1	13				

From table 89 the relationship between type of operation and pre-medication type is shown. But in all type of operations midazolam were used similarly. Premedication of midazolam were given in Explorations, I & D, I C Drainage, Laparatomy and Repair.

Operation and induction

Table - 90

	Emergency patients and operation and	induction	medicine					
Count								
		Induction	nduction medicine					Total
		STP	Ket.	Halothene	Awake	Gaseous	MAC	
Code operation	Abdominal closure	2						2
	Amputation		1					1
	Anoplasty	5				1	1	7
	Appendicectomy	42				1		43
	Colostomy	10						10
	Cystolithotomy	2	1			2		5
	Debridment		2					2
	Exploration	1	2					3
	Gastrostomy	1						1
	Herniotomy					2		2
	I & D	1	14					15
	IC drainage		10					10
	Laparotomy	44	3		1	6		54
	Ramsted's operation	8				3		11
	Reduction & fixation	1						1
	Repair	4	9	1		4		18
	Thoracotomy ligation of fistula and end to end anastomosis	2				1		3
	Venisection	1						1
	wound closure	1						1
Total		125	42	1	1	20	1	190

In table 90, Relationship between type of operation and induction agent. STP was used frequently in appendicectomy, colostomy and laparatomy. Ketamine was used in I & D, IC drainage and repair. Induction agents like STP were used in maximum cases like, appendicectomy, laparatomy, colostomy, and Ramstad's operations. Ketamine have become the base line anaesthetic agent both for induction and maintains in I & D and I C & Drainage.

Operation and age

Ta	ble	-	91
1 a	UIC	-	7

1	Emergency patients and opera	ation and age.					
Count							
		Age(in yrs)					Total
		<=28 days	29days-1	1.1-5 yrs	5.1-10 yrs	>10 yrs	
Code operation	Abdominal closure	1		1			2
	Amputation					1	1
	Anoplasty	7					7
	Appendicectomy		1	5	21	16	43
	Colostomy	9	1				10
	Cystolithotomy		1	2	2		5
	Debridment			2			2
	Exploration			1	2		3
	Gastrostomy	1					1
	Herniotomy		1	1			2
	I & D	1		7	4	3	15
	IC drainage		1	3	5	1	10
	Laparotomy	15	14	9	9	7	54
	Ramsted's operation	1	10				11
	Reduction & fixation			1			1
	Repair	1	2	9	6		18
	Thoracotomy ligation of fistula and end to end anastomosis	3					3
	Venisection				1		1
	wound closure		1				1
Total		39	32	41	50	28	190

In table 91 the distribution of cases according to types of operation and age group of patients for emergency operation. Distribution of cases was in all age groups. So it has no set pattern. The total number of 39 cases had emergency anaesthesia for operations like laparatomy -15, colostomy -9, anoplasty -7, TOF -3, etc. at the age below 28 days.

Operation and drip

Table - 92

Total		25	9	14	2	50
	Thoracotomy ligation of fistula and end to end anastomosis	1			1	2
	Repair		2			2
	Ramsted's operation	6				6
	Laparotomy	10		6	1	17
	I & D	1	1			2
	Herniotomy	2				2
	Debridment		1			1
	Cystolithotomy		1			1
	Colostomy	3				3
	Appendicectomy	1	4	7		12
1	Amputation			1		1
Code operation	Abdominal closure	1				1
		5D+0.2NS	DNS	R/L	DNS & RL	
		Drip				Total
Count						
	Emergency patients and operation and	drip.				
-	1000.01					

Table 92 the relationship between type of operation and the type of drip given. In all the cases drip were given. 5% D + .2NS were given most frequently. Maximum cases 25 out of recorded 50 cases had 5D + 0.2 NS.

Operation and post operative transfer

Table - 93

	Emergency patients and operation and posto	perative tr	asfer.					
Count								
		Transfer						Total
		MW	POW	Recovery	SICU	SW	Home	
Code operation	Abdominal closure			1				1
	Amputation			1				1
	Anoplasty			4	1			5
	Appendicectomy		4	39				43
	Colostomy			7		1		8
	Cystolithotomy		1	3		1		5
	Debridment			2				2
	Exploration			3				3
	Herniotomy		1					1
	I&D			15	j			15
	IC drainage	2		7				9
	Laparotomy		3	22	11	1		37
	Ramsted's operation		1	3	5			9
	Reduction & fixation			1				1
	Repair			16			1	17
	Thoracotomy ligation of fistula and end to end anastomosis			1	2			3
	Venisection			1				1
Total		2	10	126	19	3	1	161

Table 93 the relationship of type of operation and post operative transfer. Majority of cases were transferred to recovery room first, 19 cases were transferred to SICU directly.

Postoperative transfer of the cases like an plasty -1, laparatomy -11, Ramstad's operation -5, and TOF -2, were transferred directly to SICU. Almost all the cases were in the recovery area before being sent to any other destination.

Operation and reversal

Table -	94
1 auto -	27

	Emergency patients and operation and reversal.		
Count			
		Reversal	Total
		Reversed	
Code operation	Amputation	1	1
	Appendicectomy	33	33
	Colostomy	3	3
	Debridment	1	1
	I&D	1	1
	Laparotomy	31	31
	Ramsted's operation	1	1
	Repair	3	3
	Thoracotomy ligation of fistula and end to end anastomosis	1	1
Total		75	75

In table 94, the relation between operation and reversal. Reversal was mostly given in appendectomy and laparatomy. The emergency cases had reversal in 75 cases as appendicectomy -33, laparatomy -31, and etc.

Operation and Analgesia

Table - 95

	Emergency patients and operation and analge	sia.		
Count				
		Analgesia medio	cine	Total
		Pathedine	Keta	
Code operation	Abdominal closure	2		2
	Amputation	1		1
	Anoplasty	3		3
	Appendicectomy	41		41
	Colostomy	7		7
	Cystolithotomy	2		2
	Debridment	1		1
	Gastrostomy	1		1
	Herniotomy		1	1
	Laparotomy	50		50
	Repair	6		6
	Thoracotomy ligation of fistula and end to end anastomosis	2		2
	wound closure	1		1
Total		117	1	118

In table 95 the relation between operation with analgesic drugs. Pethedine was used in almost all the cases for analgesia. Almost all the cases with parental analgesia were getting pethidine as for, appendicectomy -41, Laparotomy -50, colostomy -7, etc.

Operation and relaxant

	Emergency patients and operation and relaxant.		
Count			
		Relaxant	Total
		Yes	
Code operation	Abdominal closure	2	2
	Anoplasty	1	1
	Appendicectomy	39	39
	Colostomy	3	3
	Debridment	1	1
	Gastrostomy	1	1
	Laparotomy	43	43
	Repair	1	1
	Thoracotomy ligation of fistula and end to end anastomosis	2	2
Total		93	93

Table 96 the relation of operation and relaxant. Relaxants were used frequently in appendectomy and laparotomy. The muscle relaxants used for the emergency operations were for 93 as for appendicectomy -39, laparatomy -43, etc.

Operation and ETT

Table - 97

	Emergency patients and operation and ETT.						
Count							
		Age(in yrs)					Total
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs	
E.T.T.	3	19	3	1			23
	3.5	16	16				32
	4		9	2			11
	4.5		1	6			7
	5			9	1		10
	5.5			5	5		10
	6			1	14	3	18
	6.5		1		9	11	21
	7				5	10	15
Total		35	30	24	34	24	147

Table 97 the relation of ETT size and age of patients. This distribution shows a relation as the age of patient increases the size of ETT is also increased. The different seizes of endo-tracheal tubes used for different age groups were as for,

Up to 28 days: 3 mm - 19, 3.5 mm - 16;

29 days to 1 year: 3 mm - 3, 3.5 mm - 16, 4 mm - 9;

1 -5 years : 3 mm - 1, 4 mm - 2, 4.5 mm - 6, 5 mm - 9, 5.5 mm - 5, & 6 mm - 1;

5 - 10 years: 5 mm - 1, 5.5 mm - 5, 5.5 mm - 14, 6.5 mm - 9, 7 mm - 5;

> 10 years: 6 mm - 3, 6.5 mm - 11, 7 mm - 10;

Type of Anaesthesia

Т	abl	e	_	98	
-				~ ~	

	Emergency patients and types of anaesthesia.		
		Frequency	Percent
Valid	GA	128	67.4
	IVA	31	16.3
	LA	3	1.6
	LA/Others	1	0.5
	GA/Others	1	0.5
	GA/IVA	16	8.4
	IVA/Others	1	0.5
	IVA/LA	3	1.6
	GA/CD	6	3.2
	Total	190	100

Table 98, the frequency distribution of types of anaesthesia administered. About 85% of emergency cases used the single GA or IVA or LA. But combined GA + IVA were used in 8% and GA + CD were used in 3.2%. Classifying the variety of anaesthesia delivered in the paediatric emergency cases, the most common type of anaesthesia were GA - 128, IVA - 31, GA/IVA - 16 etc. Even in emergency anaesthesia, caudal anaesthesia was given along with GA in 6 cases.

Level of Anaesthesiologists Services

Tal	bl	e	-	99
1 u		U		//

	Emergency patients and level of anaesthesiologist services.				
		Frequency	Percent		
Valid	Consultant	2	1.1		
	Consultant/specialist/PG students	133	70		
	Consultant/PG students	55	28.9		
	Total	190	100		

Table 99 shows the involvement of different anaesthetic doctors. Consultant alone is very rare. Involvement of consultant / specialist / PG students is very high. The level of anaesthesia services were in the form of, only 2 cases had anaesthesia by consultants only, while PG students were assisting the consultants for the anaesthesia services. 133 cases i.e. 70 % of the emergency cases were conducted by a combined team of Consultants, specialists and PG stude

	Emergency patients a	nd diagnosis and types of anae	sthesia.	
Count				
code diagnosis	Abscess	Types of anaesthesia	GA	1
			IVA	11
			LA	1
			IVA/LA	1
		Total		14
	Amputation	Types of anaesthesia	GA	1
		Total		1
	Appendicitis	Types of anaesthesia	GA	43
			IVA	1
		Total		44
	ARM	Types of anaesthesia	GA	7
			LA	1
			GA/IVA	3
			GA/CD	2
		Total		13
	burst abdomen	Types of anaesthesia	GA	3
		Total		3
	cvst	Types of anaesthesia	GA	1
		Total		1
	Diaphragmatic Hernia	Types of anaesthesia	GA	2
		Total		2
	Empyema Thorax	Types of anaesthesia	IVA	7
			LA	1
			IVA/LA	2
		Total		10
	Foreian body	Types of anaesthesia	IVA	2
		Total		2
	Gangrene	Types of anaesthesia	GA	1
		Total		1
	Gastroschiasis	Types of anaesthesia	GA	1
		Total		1
	Hernia	Types of anaesthesia	GA/IVA	1
			GA/CD	1
		Total		2
-	Hirschprungs disease	Types of anaesthesia	GA	2
			GA/IVA	2
		Total		4
	inacessible vein	Types of anaesthesia	LA/Others	1
		Total		1

Diagnosis and Anaesthesia Table - 100

	Injury	Types of anaesthesia	GA	6
			IVA	10
			GA/IVA	1
			IVA/Others	1
		Total		18
	Intestinal Obstruction	Types of anaesthesia	GA	38
			GA/Others	1
		Total		39
	Necrotising enterocolitis	Types of anaesthesia	GA	1
		Total		1
	Omphalocoele+ARM	Types of anaesthesia	GA/CD	1
		Total		1
	Perforation peritonitis	Types of anaesthesia	GA	9
		Total		9
	Pyloric stenosis	Types of anaesthesia	GA	2
			GA/IVA	9
		Total		11
	Rectal prolapse	Types of anaesthesia	GA/CD	1
		Total		1
	TOF	Types of anaesthesia	GA	4
		Total		4
	Urethral Stone	Types of anaesthesia	GA	3
			GA/CD	1
		Total		4
	Urethral Stone+ bladder stone	Types of anaesthesia	GA	1
		Total		1
	wilm's tumor with Down's synd	Types of anaesthesia	GA	1
		Total		1
	wound dehiscence	Types of anaesthesia	GA	1
		Total		1
Total		Types of anaesthesia	GA	128
			IVA	31
			LA	3
			LA/Others	1
			GA/Others	1
			GA/IVA	16
			IVA/Others	1
			IVA/LA	3
			GA/CD	6
		Total		190
1				

In table 100, the relationship of diagnosis and the types of anaesthesia used in emergency operation is shown. IVA in abscess, GA in appendicitis, IVA in empyema thorax, IVA in injury, GA in intestinal obstruction and GA + CD in urethral stone are used frequently.

Every case is being dealt with from point of view of delivery of anaesthesia. A case of abscess being given anaesthesia by GA, IVA, LA or IVA/LA. A case of ARM has been given anaesthesia in the form of GA, LA, GA/IVA, and 0r GA/CD. A total of GA – 128, IVA – 31, GA/IVA – 16, GA/CD – 6, LA – 3, IVA/LA – 3, GA/ others – 1, IVA / others – 1, and LA/others – 1, were analyzed.

Diagnosis and Anaesthesiologist

Table - 101

	Emergency patients and	diagnosis and level of and	aesthesiologist services.	
Count		Appenthesis -It		<u> </u>
code diagnosis	ADSCESS	Anaesthesia doctors	Consultant/PG students	1
		Total		1
	Amputation	Anaesthesia doctors	Consultant/specialist/PG students	· ·
	, inputation	Total	Concatant op colaret i C ctadonto	
	Appendicitis	Anaesthesia doctors	Consultant	
			Consultant/specialist/PG students	3
			Consultant/PG students	1
		Total		4
	ARM	Anaesthesia doctors	Consultant/specialist/PG students	1
			Consultant/PG students	
		Total		1
	burst abdomen	Anaesthesia doctors	Consultant/specialist/PG students	
		Total		
	cyst	Anaesthesia doctors	Consultant/PG students	
		Total		
	Diaphragmatic Hernia	Anaesthesia doctors	Consultant/specialist/PG students	
		1 otal	Cancultant/anagialist/DC students	
	Empyema morax	Anaestnesia doctors	Consultant/Specialist/PG students	
		Total		1
	Foreign body	Anaesthesia doctors	Consultant/specialist/PG students	+ '
			Consultant/PG students	
		Total		
	Gangrene	Anaesthesia doctors	Consultant/PG students	
		Total		1
	Gastroschiasis	Anaesthesia doctors	Consultant/specialist/PG students	
		Total	•	
	Hernia	Anaesthesia doctors	Consultant/specialist/PG students	
			Consultant/PG students	
		Total		
	Hirschprungs disease	Anaesthesia doctors	Consultant/specialist/PG students	
		Total		
	inacessible vein	Anaesthesia doctors	Consultant/PG students	1
		Total		1
	Injury	Anaesthesia doctors	Consultant	1
	_		Consultant/specialist/PG students	13
		-	Consultant/PG students	4
		Total		18
	Intestinal Obstruction	Anaestnesia doctors	Consultant/Specialist/PG students	29
		Total		10
	Necrotising enterocolitis	Anaesthesia doctors	Consultant/PG students	39
		Total		
		Anaesthesia doctors	Consultant/specialist/PG students	1
		Total		1
	Perforation peritonitis	Anaesthesia doctors	Consultant/specialist/PG students	5
			Consultant/PG students	4
		Total		
	Pyloric stenosis	Anaesthesia doctors	Consultant/specialist/PG students	4
	1		Consultant/PG students	7
		Total		11
	Rectal prolapse	Anaesthesia doctors	Consultant/specialist/PG students	1
		Total		1
	TOF	Anaesthesia doctors	Consultant/specialist/PG students	2
			Consultant/PG students	2
		Total		4
	Urethral Stone	Anaesthesia doctors	Consultant/specialist/PG students	4
		Total		4
	Urethral Stone+ bladder stone	Anaesthesia doctors	Consultant/specialist/PG students	1
		Total		1
	wilm's tumor with Down's syndrome	Anaesthesia doctors	Consultant/PG students	1
		Total		1
	wound dehiscence	Anaesthesia doctors	Consultant/specialist/PG students	1
		Total		1
Total	_	Anaesthesia doctors	Consultant	2
			Consultant/specialist/PG students	133
		1	Consultant/PG students	J 55
		T ()		

In table 101, the relationship of types of diagnosis and type of anaesthetic doctors involved. The combined team of consultant + specialist + PG students is involved frequently in abscess, ARM, Empyema thoraces, Hisrschprugs disease, intestinal obstruction, perforation peritonitis and urethral stone. No matter the diagnosis, the level of anaesthesiologists involved for all sorts of emergency cases were with consultant and specialist and or PG students.

Operation and type of Anaesthesia

Table - 102

	Emergency patients and operation and type	s of anaesthesia.		
Code operation	Abdominal closure	Types of anaesthesia	GA	2
		Total		2
	Amputation	Types of anaesthesia	GA	1
		Total		1
	Anoplasty	Types of anaesthesia	GA	3
			LA	1
			GA/IVA	2
			GA/CD	1
		Total		7
	Appendicectomy	Types of anaesthesia	GA	43
		Total		43
	Colostomy	Types of anaesthesia	GA	6
			GA/IVA	3
			GA/CD	1
		Total		10
	Cystolithotomy	Types of anaesthesia	GA	4
	Cystematoterity	Types of anacouriesia	GA/CD	1
		Total	ORIOD	5
	Debridment	Types of appentices	GA	
		Total	GA	2
	Evelopetion		1) / A	
	Exploration	Total	IVA	3
		Turner of any the l		3
	Gastrostomy	Types of anaesthesia	GA	1
		Iotal		1
	Herniotomy	Types of anaesthesia	GA/IVA	1
			GA/CD	1
		Total		2
	1 & D	Types of anaesthesia	GA	1
			IVA	12
			LA	1
			IVA/LA	1
		Total		15
	IC drainage	Types of anaesthesia	IVA	7
			LA	1
			IVA/LA	2
		Total		10
	Laparotomy	Types of anaesthesia	GA	52
	Labarotomy	Typee of anacourooid	GA/Others	1
			GA/CD	1
		Tatal	0,100	54
	Pametod's operation	Typos of apacethosia	GA	
		Types of allaestriesia	GA	
		Total	GANVA	9
	Deduction & fivation	Turnes of encosthes!-	CAVOD	11
		Types of anaestnesia	GAVED	1
				1
	Kepair	i ypes of anaesthesia	GA	7
			IVA	9
			GA/IVA	1
			IVA/Others	1
		Iotal		18
	I horacotomy ligation of fistula and end to end anastomosis	Types of anaesthesia	GA	3
		Total		3
	Venisection	Types of anaesthesia	LA/Others	1
		Total		1
	wound closure	Types of anaesthesia	GA	1
		Total		1
Total		Types of anaesthesia	GA	128
			IVA	31
			LA	3
			LA/Others	1
			GA/Others	1
			GA/IVA	16
			IVA/Others	1
				3
			GA/CD	6
		Total	0.000	100
		10141		190

In table 102, Relationship between types of operation and types of anaesthesia used in emergency operations. GA was mostly used in appendectomy, laparotomy and wound closure. IVA was mostly used in I & D repair and wound closure. GA + IVA were used in anoplasty, colostomy, and Ramstad's operation and wound closure.

Operation and level of Anaesthesiologist services

	Emergency patients and operation a	and level of	anaesthesiologist services.		
			Anaesthesia doctors	5	Total
		Consultant	Consultant/specialist/PG students	Consultant/PG students	
Code operation	Abdominal closure		2		2
	Amputation			1	
	Anoplasty		6	1	7
	Appendicectomy	1	31	11	43
	Colostomy		8	2	. 1(
	Cystolithotomy		5		ł
	Debridment		1	1	2
	Exploration	1	1	1	3
	Gastrostomy		1		ŕ
	Herniotomy		1	1	2
	1 & D		11	4	15
	IC drainage		7	3	1(
	Laparotomy		37	17	54
	Ramsted's operation		4	7	1'
	Reduction & fixation		1		
	Repair		15	3	18
	Thoracotomy ligation of fistula and end to end anastomosis		1	2	. 3
	Venisection			1	
	wound closure		1		
Total		2	133	55	190

Table -	103
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In table 103, Relationship between type of operation and type of anaesthetic doctors involved in emergency cases is presented. Involvement of consultant with specialist and PG students are found in almost all type of operations. It has been tried to analyze the level of anaesthesiologist's services for delivering anaesthesia for different operations.

Age and type of Anaesthesia

Emergency patients and age and types of anaesthesia.							
			Age((in yrs)			Total
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs	
Types of anaesthesia	GA	28	19	21	36	24	128
	IVA		1	16	11	3	31
	LA	2				1	3
	LA/Others				1		1
	GA/Others	1					1
	GA/IVA	5	10	1			16
	IVA/Others	6		1			1
	IVA/LA		1		2		3
	GA/CD	3	1	2			6
Total		39	32	41	50	28	190

Table - 104

Table 104, Relationship of age group of patient and the types of anaesthesia administered in emergency cases. IVA was used in older children. The use of GA + IVA and the GA / CD is in early age group. GA has no particular pattern. The table 68 also shows types of anaesthesia in different age groups. GA is given in all age groups. IVA is given in age group 1 year and above.

1	Emergeno	cy patients a	Table - 105 and age and level of anaesthesiolo	gist services.			
			level of anaesthesiologist services.				
		Consultant	Consultant Consultant/specialist/PG students Consultant/PG students				
Age(in yrs)	<=28 days		30	9	39		
	29days-1 yr		21	11	32		
	1.1-5 yrs		28	13	41		
	5.1-10 yrs	2	35	13	50		
	>10 yrs		19	9	28		
Total		2	133	55	190		

In table 105, the relationship between age group of patient and involvement of team of anesthetic doctors is presented. Involvement of specialist and PG students with consultants is quiet high but there is no any difference among the different age groups. For all age groups, the level of anaesthesiologists was the same. The only 2 cases given anaesthesia by the consultants were in the age group of 5-10 years.

En	nergency patie	nts and v	weight a	nd type	es of a	anaes	thesia.			
					wt(k	gs)				Total
		1.5-2.5	2.5-3	3-5	5-10	10-15	15-20	20-25	>=25	
Types of anaesthesia	GA	12	21	2	16	15	21	14	27	128
	IVA				5	9	9	4	4	31
	LA		1	1					1	3
	LA/Others								1	1
	GA/Others		1							1
	GA/IVA		9	2	4	1				16
	IVA/Others					1				1
	IVA/LA					1	2			3
	GA/CD	1	2	1		2				6
Total		13	34	6	25	29	32	18	33	190

Table –	106
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In table 106, the distribution type of anesthesia and weight of the patients are shown. GA + IVA and GA + CD are used in low weight group where as IVA and IVA + LA is used in higher weight group. GA is used in all the groups. The types of anaesthesia in different weight groups were also not much varied. Almost all the weight groups have equal and frequent use of GA.

Table – 1	107
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	Emergency patients and weight and level of anaesthesiologist services.						
			level of anaesthesiologist services.		Total		
		Consultant	Consultant/specialist/PG students	Consultant/PG students			
wt(kgs)	1.5-2.5	0	11	2	13		
	2.5-3	0	23	11	34		
	5-Mar	0	3	3	6		
	10-May	0	17	8	25		
	15-Oct	0	20	9	29		
	15-20	0	24	8	32		
	20-25	2	11	5	18		
	>=25	0	24	9	33		
Total		2	133	55	190		

In table 107, the distribution of cases by weight group and involvement of anaesthetic doctors in teams. The involvement of consultant alone is very rare where as involvement of specialist and PG students with consultant are similar in all weight groups. Regarding the weight groups, the service of anaesthesia given were by consultants and specialist and / or PG students. The only 2 patients given anaesthesia by consultant anaesthesiologists only were in the age group of 20 - 25 Kg.

Table - 108

	Emergency patie	nts and anaesthesia and	premedicati	ion.	
		Types of anaesthesia			Total
		GA	IVA	LA	
premedication.	Midazolam	2	9	1	12
	Diazopam	C	1	0	1
Total		2	10	1	13

In table 108, Relation between pre-medication and type of anaesthesia is shown. Use of midazolam was seen frequently in IVA. Diazepam was used very rarely i.e. in only one case. The emergency patients having premedication were in only 13 cases with midazolam -12 and diazepam -1.

Table –	109
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		Emergency pa	atients and doctors and premedication.		
		level of anaesthesi	ologist services.		Total
		Consultant	Consultant/specialist/PG students	Consultant/PG students	
premedication.	Midazolam	1	8		3 1
	Diazopam	0	1		0
Total		1	9		3 1

In table 109 Relationship between pre-medication and type of anaesthetic doctors are shown. Midazolam was used mostly by specialist + PG students + consultants.

Premedication were given in maximum number of cases when all the consultants, specialists and PG students were involved.

Emergency patients and anaestnesia and induction.									
			Induction medicine					Total	
		STP	Ket.	Halothe	Awake	Gaseous	MAC		
Types of anaesthesia	GA	106	7	1	1	13		128	
	IVA	1	30					31	
	LA	1	1				1	3	
	LA/Others	1						1	
	GA/Others		1					1	
	GA/IVA	11				5		16	
	IVA/Others	1						1	
	IVA/LA		3					3	
	GA/CD	4				2		6	
Total		125	42	1	1	20	1	190	

Table - 110

In table 110, Induction pattern in different types of anaesthesia has been shown. In GA, STP induction is maximum. In IVA Ketamine is used in maximum cases. The analysis of type of anaesthesia and different types of induction methods showed STP as the main agent for induction in GA followed by gaseous induction.

Table – 1	1	1
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	Emerge	ncy pat	tients	and	anaesthes	ia and relax	kaxnt.		
			Types of anaesthesia					Total	
		GA	IVA	LA	LA/Others	GA/Others	GA/IVA	GA/CD	
Relaxant	SUX & PAV	53	1	1	1		1		57
	SUX & NORE	32							32
	Nore	4							4
	PAV	2				1			3
	SUX	28					12	5	45
Total		119	1	1	1	1	13	5	141

In table 111 the relation between relaxant and type of anaesthesia is shown. Almost all combination relaxant were used in GA. SUX was used more in GA + IVA also. Muscle relaxants were used mainly while delivering GA i.e. 119 out of 141 cases having anaesthesia.

Tab	le –	11	12
I GO			

Emergency patients and Anaesthesia doctors and relaxaxnt.							
			Anaesthesia doctors				
		Consultant	Consultant/specialist/PG students	Consultant/PG students			
Relaxant	SUX & PAV		37	20	57		
	SUX & NORE	1	26	5	32		
	Nore		3	1	4		
	PAV		1	2	3		
	SUX		33	12	45		
Total		1	100	40	141		

In table 112, use of relaxant by different team of the anaesthetic doctors has been shown. Mixed team of the doctors used all relaxant equally. No matter who all were involved in the delivery of anaesthesia, the use of different muscle relaxants were in the same pattern.

Table –	113
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Emergency patients and anaesthesia and analgesia.							
		Types of anaesthesia Total					
		GA	GA/Others	GA/IVA			
Analgesia medicine	Pathedine	115	1	1		117	
	Keta			1		1	
Total		115	1	2		118	

Table 113 is for showing the application of analgesia in different type of anaesthesia. Pethidine was used for almost all cases as analgesia in Gather use of analgesia in paediatric anaesthesia in the parenteral form is pethidine in 117 and ketamine -1.

Table – 1	14
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	Emergenc	y patients and Anaesthesia doctors ar	nd analgesia.		
		Anaesthesia doctors			
		Consultant/specialist/PG students	Consultant/PG students		
Analgesia medicine	Pathedine	89	28		117
	Keta	1			1
Total		90	28		118

Table 114 is for showing analgesia present be rows. Pethidine was used in equal ratio in different group of doctors. The use of analgesia is higher in consultant/ specialist and PG Students 89 + 1 = 90.

	Emei	rgency patie	ents and ETT a	and Anaesth	nesia.	
			Types of anaesthesia			
		GA	GA/Others	GA/IVA	GA/CD	
E.T.T.	3	17		5	1	23
	3.5	20	1	9	2	32
	4	10			1	11
	4.5	5		1	1	7
	5	9			1	10
	5.5	10				10
	6	18				18
	6.5	21				21
	7	15				15
Total		125	1	15	6	147

Table –	1	15
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In table 115 correlation of ETT size with type of anaesthesia is given. All size of ETT was found in GA but in GA + IVA and GA + CD, ETT size was found less. The use of ETT is analyzed and found used in 147 cases out of 190 emergency cases

Table –	116
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1		Emergend	y patients and ETT and Anaesthesia do	octors involved.	
		Anaesthes	ia doctors		Total
		Consultant	Consultant/specialist/PG students	Consultant/PG students	
E.T.T.	3		17	6	23
	3.5		20	12	32
	4		10	1	11
	4.5		5	2	7
	5		8	2	10
	5.5		6	4	10
	6	1	11	6	18
	6.5		17	4	21
	7		10	5	15
Total		1	104	42	147

In table 116, relationship of ETT size with team of the anaesthetic doctors has been shown. All size of ETT is found among combined team of the doctors. The use of ETT in different skilled anaestheic manpower is also of not much significant.

Table - 117

Emergency patients and anaesthesia and N20							
		Тур	Types of anaesthesia				
		GA	GA/IVA	GA/CD			
N2o	Yes	30	4	1		35	
Total		30	4	1		35	

In table 117, use of N $_{2}O$ was shown in different types of anaesthesia. Maximum N $_{2}O$ was used in GA. The use of Nitrous oxide is frequent in GA than with the use of IVA and CD.

Table –	118
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Emergency patients and N20 & Anaesthesia doctors involved.								
		Anaesthesia doctors						
		Consultant/specialist/PG students	Consultant/PG students					
N2o	Yes	18		17		35		
Total		18		17		35		

In table 118, use of N₂O by different team of anaesthetist is shown. Two groups, specialist + PG with consultant and consultant with PG students has used N₂O.The use of Nitrous oxide in the involvement of different skilled anaesthesiologists is of no much significant.

Table - 119

Emergency patients and anaesthesia and relaxant.						
		Ту	Types of anaesthesia			
		GA	GA/Others	GA/IVA		
Relaxant	Yes	91	1	1	9	
Total		91	1	1	9	

In table 119 use of relaxant with different types of anaesthesia has been shown. Out of the 93 relaxant used cases, 91 cases received relaxant in GA group i.e. 97.1% cases. The use of muscle relaxants in emergency paediatric anaesthesia is in the extent of 93 out of 190 cases.

Table - 120

Emergency patients and relaxaxnt & Anaesthesia doctors involved.							
			Anaesthesia doctors				
		Consultant	Consultant/specialist/PG students	Consultant/PG students			
Relaxant	Yes	1	67	25	93		
Total		1	67	25	93		

In table 120, the relaxant used and anaesthetic team was shown. More relaxant was used by the group of doctors consisting of consultant, specialist + PG students. The use of muscle relaxants in the involvement of different skilled anaesthetic manpower is not of much significance.

Table – 121

	Emergency patients and anaesthesia and halothane.							
			Types of anaesthesia					
		GA	IVA	GA/Others	GA/IVA	GA/CD		
Halo	Yes	124	1	1	16	6		148
Total		124	1	1	16	6		148

In table 121, use of halothane in different types of anaesthesia has been shown. Halothane was used mostly in GA but some cases of GA + IVA also had halothane. The use of halothane in anaesthesia service is in the extent of GA-124, IVA - 1, GA/others – 1, GA/IVA - 16, GA/CD 6.

Table – 122

Emergency patients and Halo & Anaesthesia doctors involved.							
			Anaesthesia doctors		Total		
		Consultant	Consultant/specialist/PG students	Consultant/PG students			
Halo	Yes	1	106	41	148		
Total		1	106	41	148		

In table 122, use of halothane and group of anaesthesia doctors has been shown. The consultant + specialist + PG student's teams have used more halothane. The use of Halothane in the different skilled anaesthetic services is of no much difference.

Table - 123

	Emergency patients and anaesthesia and Reversal.						
		Types of ar	Types of anaesthesia				
		GA	IVA	GA/IVA			
Reversal	Reversed	70	2	3		75	
Total		70	2	3		75	

In table 123 use of reversal in different type of anaesthesia has been shown. Most of reversal was given in GA (93.3%). The reversal was given in only 75 cases.

Table – 1	124
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Emergency patients and Reversal & Anaesthesia doctors involved.							
		Anaesthesia doctors					
		Consultant	Consultant/specialist/PG students	Consultant/PG students			
Reversal	Reversed	1	58		16		75
Total		1	58	,	16		75

In table 124, Use of reversal and team of anaesthetists has been shown. Reversal was given more frequently in the cases dealt by the team of consultant with specialists and PG students. The use of reversal in the involvement of different skilled manpower also is of no much difference.

Table -125

Emergency patients and age and premedication.									
			Age(in yrs)						
		29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs				
premedication.	Midazolam	1	4	6	1	12			
	Diazopam			1		1			
Total		1	4	7	1	13			

In table 125, relation between use of pre-medication and age group of patients shows the use of pre-medication is mainly for cases with age more than one year. The use of premedication is frequent in the age group of 1 to 10 years.

Table –	126
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	Emergency pat	ients and a	naesthesia	and Postop	erativeTrar	sfer		
			PostoperativeTransfer					Total
		MW	POW	Recovery	SICU	SW	Home	
Types of anaesthesia	GA		8	81	36	3		128
	IVA	2		28			1	31
	LA	1		2				3
	LA/Others			1				1
	GA/Others				1			1
	GA/IVA		1	7	8			16
	IVA/Others			1				1
	IVA/LA			3				3
	GA/CD		1	3	2			6
Total		3	10	126	47	3	1	190

Table 126 gives the relation between the post operative transfer and type of anaesthesia. Most of the cases with all type of anaesthesia have been transferred to recovery room. A significant number of GA cases have been transferred to SICU. With the use of different pattern of anaesthesia, the post operative transfer of patients to recovery room is frequent, while direct transfer to SICU GA – 36 And GA/IVA – 8 and POW – 8 with GA.

Tab	le –	127
I GO		· · · ·

		Emergency patie	nts and transfer & Anaesthesia docto	ors involved.	
			Anaesthesia doctors		Total
		Consultant	Consultant/specialist/PG students	Consultant/PG students	
Transfer	MW		2	1	3
	POW		3	7	10
	Recovery	2	94	30	126
	SICU		30	17	47
	SW		3		3
	Home		1		1
Total		2	133	55	190

Table 127 shows the distribution of post operative transfer by different group of anaesthetic doctors. Majority of cases were dealt by team of consultant + specialist + PG students. A significant number of cases have been transferred by consultant + PG student team. The cases conducted only by consultants were shifted to recovery area. But the other involvement of different experts does not indicate any guideline for transfer of the patients to any specific area or wards.

Table - 128

	Emergency patients and anaesthesia.							
		Frequency	Percent	Valid Perc	Cumulative Percent			
Valid	MAC	2	1.1	1.1	1.1			
	TIVA	41	21.6	21.6	22.6			
	GA/ETT/LI	17	8.9	8.9	31.6			
	GA/ETT/CB	8	4.2	4.2	35.8			
	GA/ETT/PETH/NOR	34	17.9	17.9	53.7			
	GA/ETT/PETH	26	13.7	13.7	67.4			
	GA/PETH/PAV/ETT	62	32.6	32.6	100			
	Total	190	100	100				

Table 28 gives the different combination of types of anaesthesia. Maximum was GA + PET + PAV +ETT. Minimum was MAC. The different combinations in anaesthesia services have been analyzed. GA with pethidine as an analgesic, with endotracheal intubations and pancuronium as a muscle relaxant have been used most frequently. 62 cases i.e. 32.6%, TIVA comes in second in terms of frequent occurring with 41 cases i.e. 21.6%.

	Emergency patients	and diagnosis and anaes	sthesia.	
code diagnosis	Abscess	Type Of Anesthesia	TIVA	14
		Total		14
	Amputation	Type Of Anesthesia	GA/PETH/PAV/ETT	1
	Appendicitis	Type Of Anesthesia	TIVA	1
			GA/ETT/PETH/NOR	15
			GA/ETT/PETH	2
			GA/PETH/PAV/ETT	26
	ARM	Type Of Apesthesia	MAC	44
		Type Of Anesthesia	GA/ETT/LI	3
			GA/ETT/CB	3
			GA/ETT/PETH/NOR	1
			GA/ETT/PETH	4
		Total	GA/PETH/PAV/ETT	13
	burst abdomen	Type Of Anesthesia	GA/ETT/PETH/NOR	3
		Total		3
	cyst	Type Of Anesthesia	GA/ETT/PETH	1
		Total		1
	Diaphragmatic Hernia	Type Of Anestnesia	GA/ETT/PETH/NOR	2
	Empyema Thorax	Type Of Anesthesia	TIVA	10
		Total		10
	Foreign body	Type Of Anesthesia	TIVA	2
	Canarana	Total		2
	Gangrene	Total	GA/PETH/PAV/ETT	1
	Gastroschiasis	Type Of Anesthesia	GA/ETT/CB	1
		Total		1
	Hernia	Type Of Anesthesia	GA/ETT/LI	1
			GA/ETT/CB	1
	Hirschnrungs disease	Type Of Anesthesia	GA/ETT/LI	1
		Type Of Arlestnesia	GA/ETT/PETH/NOR	1
			GA/ETT/PETH	2
		Total		4
	inacessible vein	Type Of Anesthesia	MAC	1
		Total		1
	Injury	Type Of Anesthesia		13
		Total	GA/ETT/PETH	18
	Intestinal Obstruction	Type Of Anesthesia	GA/ETT/LI	1
			GA/ETT/PETH/NOR	9
			GA/ETT/PETH	7
			GA/PETH/PAV/ETT	22
		Total		39
	inecrotising enterocolitis	Type Of Anestnesia	GA/ETT/PETH	1
	Omphalocoele+ABM	Type Of Anesthesia	GA/ETT/CB	1
	omphalococie wirkin	Total	CALL HOD	1
	Perforation peritonitis	Type Of Anesthesia	GA/ETT/PETH/NOR	1
	+		GA/PETH/PAV/ETT	8
	Dularia ataz asia	Total		9
	Pyloric stenosis	Total	GA/ETT/LI	11
	Rectal prolapse	Type Of Anesthesia	GA/ETT/CB	1
		Total		1
	TOF	Type Of Anesthesia	GA/ETT/PETH/NOR	1
	+		GA/PETH/PAV/ETT	3
		Total		4
	Urethral Stone	Type Of Anesthesia		1
	1		GA/ETT/PETH	2
		Total		4
	Urethral Stone+ bladder stone	Type Of Anesthesia	GA/ETT/PETH	1
	+	Total		1
	wilm's tumor with Down's syndrome	Type Of Anesthesia	GA/ETT/PETH/NOR	1
	wound dobiocons -	Turne Of Annathania		1
	wound deniscence	Total	GA/ETT/PETH	1
Total		Type Of Anesthesia	MAC	2
			TIVA	41
			GA/ETT/LI	17
			GA/ETT/CB	8
			GA/ETT/PETH/NOR	34
				26
		Tetel	SAVELIT/FAV/ETT	02

Table - 129

Table 129 gives the group of anaesthesia for different diagnosis. IVA alone used more in abscess, injury. GA combination with other was used more in appendicitis, empyema, tumors, intestinal obstruction, and pyloric stenosis and perforation peritonitis.

	Emergency patients and operation ar	nd anaesthesia.		
Code operation	Abdominal closure	Type Of Anesthesia	GA/ETT/PETH/NOR	2
		Total	0.1 (DET.) (D.1) ((ETT.)	2
	Amputation	Type Of Anesthesia	GA/PETH/PAV/ETT	1
	Apoplasty	Tupo Of Aposthosia	MAC	1
	Anopiasty	Type Of Allestilesia	GA/ETT/LL	2
			GA/ETT/CB	2
			GA/ETT/PETH	2
		Total		7
	Appendicectomy	Type Of Anesthesia	GA/ETT/PETH/NOR	15
			GA/ETT/PETH	2
		T ()	GA/PETH/PAV/ETT	26
	Calastamy	Tupe Of Aposthosia		43
	Colosionly	Type Of Affestitesia	GA/ETT/CB	2
			GA/ETT/PETH/NOR	2
			GA/ETT/PETH	4
			GA/PETH/PAV/ETT	1
		Total		10
	Cystolithotomy	Type Of Anesthesia	TIVA	1
			GA/ETT/CB	1
			GA/ETT/PETH	3
		Total	0.4/577/55771	5
	Depriament	Type Of Anesthesia	GA/ETT/PETH	
		Total	GA/PEIN/PAV/EII	1
	Exploration	Type Of Anesthesia	TIVA	3
		Total		3
	Gastrostomy	Type Of Anesthesia	GA/ETT/PETH/NOR	1
		Total		1
	Herniotomy	Type Of Anesthesia	GA/ETT/LI	1
			GA/ETT/CB	1
		Total	T D (4	2
		Type Of Anesthesia	TIVA	15
	IC drainage	Type Of Anesthesia	τινα	10
	io dramage	Total	1005	10
	Laparotomy	Type Of Anesthesia	GA/ETT/LI	1
			GA/ETT/CB	1
			GA/ETT/PETH/NOR	13
			GA/ETT/PETH	9
			GA/PETH/PAV/ETT	30
		Total	0.4/577/14	54
	Kamsted's operation	Total	GA/ETT/LI	11
	Reduction & fixation	Type Of Anesthesia	GA/ETT/CB	1
		Total		1
	Repair	Type Of Anesthesia	TIVA	12
			GA/ETT/CB	1
			GA/ETT/PETH/NOR	1
			GA/ETT/PETH	4
		Total		18
	I horacotomy ligation of fistula and end to end anastomosis	Type Of Anesthesia	GA/PETH/PAV/ETT	3
	Vonicaction	Tupo Of Aposthooic	MAC	3
	VENISECIUM	Total	IVIAC	1
	wound closure	Type Of Anesthesia	GA/ETT/PETH	1
		Total		1
Total		Type Of Anesthesia	MAC	2
			TIVA	41
			GA/ETT/LI	17
			GA/ETT/CB	8
			GA/ETT/PETH/NOR	34
			GA/ETT/PETH	26
		Total	GAVELIN/PAV/EII	100
I	1	10(a)		190

Table - 130

Table 130 the combination anaesthesia used in different type of operations. GA and PETH / PAV etc were mostly used in appendicectomy, laparotomy and Ramstad's operation. TIVA was used more in I & D, IC drainage, repair. The different types of anaesthesia to different cases for different operations have been analyzed. Table 129 & 130.

1able - 131	Table -	- 131
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Emergency patients and age and anaesthesia.								
			Ag	je(in yrs)			Total	
		<=28 days	29days-1 yr	1.1-5 yrs	5.1-10 yrs	>10 yrs		
Type Of Anesthesia	MAC	1			1		2	
	TIVA	1	2	18	16	4	41	
	GA/ETT/LI	5	12				17	
	GA/ETT/CB	5	1	2			8	
	GA/ETT/PETH/NOR	7	5	4	11	7	34	
	GA/ETT/PETH	14	3	5	4		26	
	GA/PETH/PAV/ETT	6	9	12	18	17	62	
Total		39	32	41	50	28	190	

Table 131 gives the relation between age group and combination types of anaesthesia. More combination types of anaesthesia were used in GA for older age group. But GA /ETT more used in younger group. The type of anaesthesia for different age group has been analyzed. MAC was given to below 28 days baby. TIVA was mainly given to 1to 10 years of age Caudal blocks along with GA were given to children up to 5 years of age.

Table -132

	Emergency patients and weight and anaesthesia.									
			Type Of Anesthesia							
		MAC	TIVA	GA/ETT/LI	GA/ETT/CB	GA/ETT/PETH/NOR	GA/ETT/PETH	GA/PETH/PAV/ETT		
wt(kgs)	1.5-2.5				1	3	8	1	13	
	2.5-3		1	11	4	5	6	7	34	
	5-Mar	1		2	1		2		6	
	10-May		5	4		8	1	7	25	
	15-Oct		12		2	1	4	10	29	
	15-20		13			3	3	13	32	
	20-25		4			6	1	7	18	
	>=25	1	6			8	1	17	33	
Total		2	41	17	8	34	26	62	190	

Table 132 shows the relationship between type of anaesthesia and weight of patients. There are no significant trends. In all groups of anaesthesia and weight group the cell value seems to be spreaded. Caudal block were given up to 15 Kg weight of patients. MAC was given in the age group of 3 - 5 Kg Local infiltration was given mainly in the age group of 2.5 - 3 Kg children.

-									
Emergency patients and Anaesthesia doctors involved and anaesthesia.									
			Anaesthesia doctors						
		Consultant	Consultant/specialist/PG students	Consultant/PG students					
Type Of Anesthesia	MAC		1	1	2				
	TIVA	1	29	11	41				
	GA/ETT/LI		9	8	17				
	GA/ETT/CB		6	2	8				
	GA/ETT/PETH/NOR	1	28	5	34				
	GA/ETT/PETH		19	7	26				
	GA/PETH/PAV/ETT		41	21	62				
Total		2	133	55	190				

Table - 133

In table 133, types of anaesthesia used by different groups of anaethetist have been shown. The group of consultant with specialist and PG students used more different types of anaesthesia. Different combination of anaesthesia was given by different skilled groups. Even MAC was given when consultants, specialists and PG students were present for anaesthesia services.

Table - 134

Emergency patients and premedication and anaesthesia.						
		Type Of Anesthesia Total				
		TIVA	GA/PETH/PAV/ETT			
premedication	Midazolam	11	1		12	
	Diazopam	1			1	
Total		12	1		13	

In table 134, pre-medication in different anaesthetic group has been shown. The pre-medication drug midazolam has been used more in TIVA. The premedication be it with diazepam or with midazolam, it was mainly given in TIVA.

Table –	135
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E	mergency patients and	induction r	nedicin	e and anae	sthesia			
			Induction medicine Tota					
		STP	STP Ket. Halothene Awake Gaseous MA					
Type Of Anesthesia	MAC	1					1	2
	TIVA	3	36			2		41
	GA/ETT/LI	12				5		17
	GA/ETT/CB	6				2		8
	GA/ETT/PETH/NOR	29				5		34
	GA/ETT/PETH	20	1	1	1	3		26
	GA/PETH/PAV/ETT	54	5			3		62
Total		125	42	1	1	20	1	190

In table 135, type of induction used in different group of anaesthesia. STP was in all most all anaesthesia groups but Ket is used in TIVA. Gaseous induction is spreaded in all type of anaesthesia. STP was the main drug for induction and carries the wattage of 125 out of 190 emergency cases. Ketamine induction comes second 42 and mainly for TIVA.

Tab	le –	136
I GO.		100

	Emergency patients and relaxant medicine and anaesthesia.							
			Relaxant					
		SUX & PAV	SUX & NORE	Nore	PAV	SUX		
Type Of Anesthesia	MAC	1					1	
	TIVA	2				1	3	
	GA/ETT/LI					13	13	
	GA/ETT/CB	1				5	6	
	GA/ETT/PETH/NOR	2	29	2		1	34	
	GA/ETT/PETH		1			22	23	
	GA/PETH/PAV/ETT	51	2	2	3	3	61	
Total		57	32	4	3	45	141	

Table 136 gives the relation between type of relaxant and anaesthesia. SUX only was used more in GA /ETT /LA and GA/ETT / PETH. But SUX with PAV and NORE are used GA /ETT /PETH/NORE and GA/PETH/PAV/ETT. Muscle relaxants were given either for intubations alone or for intubations and or relaxation during maintenance. Suxamethonium still the drug of use in 134 cases out of 190 cases of emergency. Pancuronium have been used in 60 cases and 36 cases had norcuron as the muscle relaxant.

Table - 137

Emergency patients and analgesia medicine and anaesthesia.						
		Analgesia medicine Total				
		Pathedine Keta				
Type Of Anesthesia	TIVA	1		1		
	GA/ETT/LI	2	1	3		
	GA/ETT/CB	1		1		
	GA/ETT/PETH/NOR	33		33		
	GA/ETT/PETH	23		23		
	GA/PETH/PAV/ETT	57		57		
Total		117	1	118		

Table 137 shows the use of analgesia in different groups of anaesthesia. Pethedine was used as analgesia most frequently. Pethidine have been used as the main parenteral analgesic agent. 117 cases in total had pethidine as the analgesic agent. Ketamine have been used as an analgesic agent in only one case.

Table –	138
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	Emergency patients and ETT and anaesthesia.								
	Type Of Anesthesia						Total		
		TIVA	GA/ETT/LI	GA/ETT/CB	GA/ETT/PETH/NOR	GA/ETT/PETH	GA/PETH/PAV/ETT	-	
E.T.T.	3	1	7	2	4	6	3	23	
	3.5		8	2	5	10	7	32	
	4			1	4	1	5	11	
	4.5		1	1	2	1	2	7	
	5			1	1	3	5	10	
	5.5				1	2	7	10	
	6	1			5	2	10	18	
	6.5				7	1	13	21	
	7				5		10	15	
Total		2	16	7	34	26	62	147	

In table 138, size of ETT and type of anaesthesia has been shown. In most anaesthesia type the ETT size used were small. The use of endo tracheal tubes has been analyzed. Out of 147 endotracheal tubes used, most of the tubes were of smaller seizes like 3mm - 23, 3.5 mm - 32.

Table -139

Emergency patients			
		N2O	Total
		Yes	
Type Of Anesthesia	GA/ETT/LI	5	5
	GA/ETT/CB	1	1
	GA/ETT/PETH/NOR	9	9
	GA/ETT/PETH	3	3
	GA/PETH/PAV/ETT	17	17
Total		35	35

In table 139, the use of N_2O in different anaesthesia group has been shown. Maximum N_2O was used in the group GA/PETH/PAV/ETT and least use in GA/ETT/CB. The use of nitrous oxide is in the limited cases. It has been used in different combinations for 35 cases.

Table - 140

Emergency patients and relaxant and anaesthesia.					
		Relaxant	Total		
		Yes			
Type Of Anesthesia	GA/ETT/CB	1	1		
	GA/ETT/PETH/NOR	34	34		
	GA/ETT/PETH	1	1		
	GA/PETH/PAV/ETT	57	57		
Total		93	93		

In table 140, use of relaxant in different anaesthesia group has been shown. High of 61.3% use of relaxant was in combination GA/PETH/PAV/ETT group than with GA/ETT/PETH/NORE. Muscle relaxant has been used in different combinations of anaesthesia pattern for 93 cases.

Table – 141

Emergency patients and Halothane and anaesthesia.					
		Halo	Total		
		Yes			
Type Of Anesthesia	TIVA	5	5		
	GA/ETT/LI	17	17		
	GA/ETT/CB	7	7		
	GA/ETT/PETH/NOR	34	34		
	GA/ETT/PETH	25	25		
	GA/PETH/PAV/ETT	60	60		
Total		148	148		

In table 141, use of halothane in different anaesthetic group has been shown. 5 cases of TIVA had halothane suppliment. Halothane has been used in different combinations of anaesthesia services for 148 cases out of 190 cases.

Table - 142

Emergency patients and reversal and anaesthesia.					
		Reversal	Total		
		Reversed			
Type Of Anesthesia	TIVA	2	2		
	GA/ETT/LI	2	2		
	GA/ETT/PETH/NOR	25	25		
	GA/ETT/PETH	3	3		
	GA/PETH/PAV/ETT	43	43		
Total		75	75		

In table 142 occurrence of reversal in different anaesthesia group have been shown. Maximum reversal was occurred in the group GA/PETH/PAV/ETT followed by GA/ETT analgesic group. Out of 93 cases having muscle relaxants in different combinations of anaesthesia, only 75 cases were reversed.

Table	- 14	3
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Emergency patients and postoperative transfer and anaesthesia.									
		Transfer						Total	
		MW	POW	Recovery	SICU	SW	Home		
Type Of Anesthesia	MAC			2				2	
	TIVA	3		37			1	41	
	GA/ETT/LI		1	7	9			17	
	GA/ETT/CB		1	3	4			8	
	GA/ETT/PETH/NOR			23	10	1		34	
	GA/ETT/PETH		1	18	6	1		26	
	GA/PETH/PAV/ETT		7	36	18	1		62	
Total		3	10	126	47	3	1	190	

Table 143 Relation between post operative transfer and type of anaesthesia. Most of the cases were send to recovery first. Some cases were transfer to SICU directly. The transfer of the anaesthetized patients after completion of operation was analyzed. Maximum cases were in the recovery area 126 before being dispatched from the anaesthetic control and 47 cases have been transferred to SICU directly and only 10 cases were transferred to post operative ward.

Chapter 5

Conclusion & Recommendation

Kanti Children's Hospital has its long history of 28 years of paediatric anaesthesia. More than 28 different anaesthesiologists had given services for paediatric anaesthesia. More than 28000 cases had anaesthesia for different surgical problems. The department had become a training centre for different category of manpower. With the available services and facilities, it was high time to think something constructive about the records available with us to analyze and bring some inferences. The present study was about the

"The analysis of record and outcome of Anaesthesia for the Children undergoing Paediatric surgery in Kanti Children's Hospital" (Establishment of Database System in Paediatric Anesthesia for Children undergoing anesthesia At Kanti Children's Hospital, Kathmandu)

This study had been carried out for the year 2059 BS (2002-2003). The study has been clearly divided into two sections. The first section deals with routine anaesthesia services with a total of 1190 cases. Second section deals with 190 emergency cases. Both the sections have been analyzed on the similar headings with some exceptions. The analysis of the routine cases showed 186 varieties of different surgical conditions needing anaesthesia services. There were 26 varieties of cases in emergency. Some conditions like inguinal hernias and hydrocoels are very common and become the base line of paediatric surgery and anaesthesia. Some conditions like Diaphragmatic Hernia, Gastrochiasis and Tracheo-oesophageal fistula become the challenging situations both for the surgeons and anaesthesiologists. The most common sex in paeditric anaesthetic cases was male. The age distribution includes from day one to fourteen years of age. The weight of the patients was as low as below 1500g. The services rendered to the patients include the patients brought to OT directly from emergency to various wards and cabins after the proper preparations of the patients. The analysis of the data was done with regards to different age and weight group of patients receiving paediatric anesthesia.

The analysis of the data was done with various combinations. The specific objectives were many in this analysis. The details of the analysis may be considered in depth.

This is the first analysis of its kind as far as in the knowledge of the investigator. So with no references available, many sort comings may be seen in the present analysis. But this will be the base line information for the analysis of the anaesthesia records of an institution. The out come of the present analysis is for the better management of the department in particular and spreading of the information and knowledge for the development of anaesthesia department in general and specifically the paediatric anaesthesia and paediatric surgery. Many suggestions may be poured in for the better analysis of the record. Any interested candidate may please be referred to the detail analysis on the different combinations of the conditions in which the services being performed.

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