
Correspondence:

For submission of manuscripts, advertisments, subscription and other enquires:

Dr. T. Naresh Row,
Editor, Day Surgery Journal of India,
95, Lady Ratan Tata Medical Centre,
Cooperage, Mumbai-400 021
Maharashtra State, India.
Tel.: 91 22 22828290.

The committee welcomes articles on all matters related to day surgery, for consideration for publication. We disclaim any responsibility or liability made, and opinions expressed by authors or claims made by Advertisers; they are not necessarily the opinion of The Indian Association of Day Surgery. No part of this publications may be reproduced without prior written agreement of the publisher.

Subscription:

The Journal is published once a year. Rs.100/-

Advertisement:

Back Cover	:Rs. 25,000/- (Coloured)
Inside Front/Back	:Rs. 15,000/- (Black & white)
Full Page	:Rs. 10,000/- (Black & white)

Front Cover Design by: Dr. T. Naresh Row

The Indian Association of Day Surgery:

Founding Committee:

President:

Dr. M.M.Begani	General Surgery	- Mumbai

Vice-President:

Dr. Aniruddha Malpani	Infertility Specialist	- Mumbai
Dr. Chaitan Bhatt	ENT	- Mumbai

General Secretary:

Dr. T. Naresh Row	General Surgery	- Mumbai

Joint Secretary:

Dr. N.Pai Dhungat	Obst. & Gynac.	- Mumbai
Dr. Rahul Shroff	Ophthalmology	- Mumbai
Dr. Sushil Kumar Jain	General Surgery	- New Delhi
Dr. Manish Bansal	Urology	- Mumbai
Dr. Nisha Khushalani	Dental speciality	- Mumbai
Dr. Sanjay Kulkarni	General Surgery	- Sangli

Treasurer:

Dr.Kishore Adyanthaya	Paediatric Surgery	- Mumbai
Dr.Niranjan Agarwal	General Surgery	- Mumbai

Executive Members:

Dr. Ashok Ladha	General Surgery	- Indore
Dr. M.S. Kothari	General Surgery	- Mumbai
Dr. Upendra Mehta	General Surgery	- Mumbai
Dr. Ashok Gupta	Plastic Surgery	- Mumbai
Dr. Kulin Kothari	Opthalmology	- Mumbai
Dr. Parvez Sheikh	Colo-Rectal Surg.	- Mumbai
Dr. Prasham Shah	Orthopaedics	- Mumbai
Dr. Paras Jain	Anaesthesia	- Mumbai
Dr. Anand Somaya	CVTS	- Mumbai
Dr. Sanjay Gangwal	Oncosurgery	- Mumbai
Dr. C. S. Deopujari	Neurosurgery	- Mumbai

Senior Advisers:

Dr. T. R. Row	Plastic Surgery	- Nagpur
Dr. S. M. Bose	General Surgery	- Chandigar
Dr. R. B. Singh	General Surgery	- Mumbai
Dr. Anant Joshi	Orthopaedic Surg.	- Mumbai
Dr. S. N. Agarwal	Obst. & Gynac.	- Mumbai

Patrons:

Dr. L.H. Hiranandani	ENT	- Mumbai
Dr. Keki Mehta	Opthalmology	- Mumbai
Dr. Bhanu R. Shah	General Surgery	- Mumbai
Dr. H. K. Sanchati	Orthopaedics	- Pune
Dr. D. D. Gaur	Urology	- Mumbai
Dr. R.D. Bapat	General Surgery	- Mumbai
Dr. P. B. Pai- Dhungat	Obst. & Gynac.	- Mumbai

Contents:

	Editorial	*7*
1.	Feasibility of Day Care Surgery in an exclusive small Day-care setup. *Nigam S. K., Jain Anil, Nigam Vandana.*	8
2.	Day Surgery for Haemorrhoides. *Gupta Pravin J.*	*13*
3.	Body Sculpturing as a Day Care Surgery. *Jahagirdar Sameer S.*	*17*
4.	Day Care Surgery in India: Our experience over 10 years at a premier day care surgery institute. *Mulchandani Dheeraj V., Begani M. M.*	*22*
5.	Day Surgery-Impact of Minimal Access. *Thakur Mukund.*	*27*
6.	Multispeciality in One Day Surgery. *Row T. Naresh, Dande Seema P.*	30
7.	Information to Contributors.	*38*

Editorial

The 6th volume of this Journal coincides with the 5th National Conference. ADSCON 2010, is being held in the Centre of India, the Orange city of Nagpur.

This time, you will find articles from India only, this is because there is increase in the awareness of what is One Day Surgery and what is not.

As defined Internationally, 'true' day surgery are those where there is aperiod of observation and a fully equiped Operation Theater. These, usually, do not include Minor or OPD procedures. Diagnostic Endoscopies are excluded from Day Surgery definition.

Dr. Nigam, has very enthusiastically penned an article following protocols and working towards defining Day Surgery in his set-up. There is tremendous potential in that part of the country.

Dr. Gupta has listed the possibilities in Colo-rectal surgery, pertaining to the most common problem, Piles. worth a read.

Dr. Jahagirdar, a young and budding Plastic surgeon, based in Nagpur, has a lot to offer for patients interested in Sculpting their bodies.

Dr. Mulchandani & Dr. Begani have submitted an article which has a listing of a large number of cases. Giving an insight to a single speciality centre and its potential.

Dr. Thakur, an ardient Minimal Access surgeon in Nagpur, beleiving in Day Surgery, leading this conference and Day Surgery.

Dr. Dande and myself, have tried to take up cases from two Multispeciality One Day Surgery Centre and what we see in one year is that OPD or Minor procedures do form a bulk of cases, but a team of different specialist surgeon, wotking under one roof, can acheive wounders.

We are slowly moving forward in the right direction, with ADSCON 2010, Day Surgery has moved out of Mumbai. Hopefully, it will do as well as it is here.

Dr. T. Naresh Row

"TEAM" is a group of people who may not be equal in Qualification, Experiance or Talent, but are equal in "COMMITMENT".

Feasibility of Day Care Surgery in an exclusive small Day-care setup.

Nigam S. K.*, Jain Anil, Nigam Vandana****

**Consultant Surgeon, **Consultant Anaesthetist*

Corrospondence:

Relief Day care Centre, 1-Panchwati Colony, Airport Road,Lalghati, Bhopal- 462001, MP, India

Keywords- Day care surgery, ambulatory surgery.

To cite this article:
Nigam S. K., et. al., Feasibility of Day Care Surgery in an exclusive small Day-care setup. Day Surg J India. 2010. 6:8-12

Paper received: Dec. 2009. **Accepted:** Feb. 2010. **Source of support:** Nil.

Abstract:
Day care surgery is widely practiced in west. In India it still has to gain popularity. Center who are doing day care surgery are usually a complete hospital and Day care surgery is a part of their routine hospital work. An exclusive small Day care surgical center was established at Bhopal in 2006. In the period of September 2006 to August 2009, a total of 753 cases were operated at the center. 1202 minor surgical procedures were also done on OPD basis. All cases were performed under short period General anesthesia or Local anesthesia. Since only ASA grade I or II patients were selected, immediate postoperative complications rate was very low (5.23 %) and minor. None required postoperative hospitalization. The feasibility of performing day care surgery in an exclusive day care center is demonstrated.

Introduction

Day Care or Ambulatory surgery is one wherein; the patient can be discharged on the same day of surgery or invasive procedure[1]. The concept of day care surgery was started in the immediate post World War II period. The first modern program was started in 1961 at Michigan (USA) [2], there after so many day care centers were started in the west. The good results achieved by these centre stimulated the interest of other world. It is estimated that in a few years time, half of the elective surgery in the Britain will be on day care basis [3]. It enjoys tremendous popularity in the west, but Indian surgeons have been slow to embrace the concept because of fear of postoperative complications.

Based on this concept, we have retrospectively analyzed cases, performed over the period of last 3 years, at our center. Center is exclusively dedicated to Day Care General Surgery; we take this analysis to present the concept of Day Care Surgery and its benefits.

Material and method

All Patients operated in day care center from September 2006 to august 2009 were included in the study. Data was collected on the basis of surgical procedure, patient's age, sex, immediate Postoperative complications and treatment provided.

Set up: We received the patient in a waiting room cum reception area. After formal registration and paperwork patient send to consultation room where Disease, procedure and postoperative care was explained in details. In preparation room we do routine investigations and prepare the patient for surgery.

We are having a minor procedure room where we do Sigmoidoscopies, Cystoscopies, band ligation and cryo of piles.

Our operation theatre is fully equipped to deal any major surgeries. After operation we shift the patient to recovery room where we are having 4 postoperative recovery beds.

Inclusion criteria: Anesthesiologist assessed all patients. Only ASA grade II and I were selected for day care surgery. Complicated surgical procedures like obstructed or very big hernias were excluded. Short duration surgical procedures were mainly chosen.

Patients were asked to come 'nil orally' for admission in the morning of the same day. We made sure that a responsible person accompanied the patients to take him home and to attend on him in postoperative care. Consent was also obtained to admit them in a nearby sister concern nursing home if required, however it was not required in a single case. Information about the availability of quick transport in case of emergency and medical facilities available nearby patient's home was also inquired.

Routine pre-anesthetic checkup was done. Pre operative Hemoglobin, blood Sugar, Bleeding and Clotting time and

ECG were done in all patients.

Patients were also screened for hepatitis B and HIV. No pre operative enema was given. Patients were asked to pass the urine before surgery.

All patients were operated either in local anesthesia or short general anesthesia supplemented with local anesthesia under the supervision of an anesthetist. Anesthesia for short period was given in the form of injection Propofol or Pentothal sodium along with injection Pentozocin. Then 10 to 15 ml Xylocain was infiltrated locally. Nerve block was also done where required.

Standard surgical procedures were done in all the cases. A suppository of diclofenic was passed in the rectum after the surgical procedure. No anal pack dressing was applied in ano-rectal procedures. Injection of Tramadol was given post operatively only when patient complaints of pain, but mostly no inject able analgesic was required.

Patients were discharged after 4- 6 hours of surgery once they passed the urine and started taking oral feeds.

Instruction about postoperative care and possible complications along with dietary care was explained to the patient and his responsible attendant and a printed leaflet also given. Oral antibiotics and analgesics were advised along with supportive treatment as per the procedure.

Other than surgical operations, some minor surgical procedures were also performed on OPD basis like band ligation of piles and scopes etc.

Observation:

A Total of 753 patients were operated from September 2006 to August 2009. Majority of them had ano-rectal diseases. (Table-1)

Other than surgeries, 1202 minor surgical procedures were also performed on OPD basis (Table-2)

Oldest patient operated on the day care basis was of age of 78 years, for pile and the youngest one was 7 months old child for circumcision. Most of the patients were of the age group 21 to 40 years. (Table-3)

Post operatively patients were kept under observation on recovery beds with monitoring by Pulse oxymeter. Per rectal diclofenic suppository produces good analgesia, Injection Tramadol was given only when patient complained of pain

Immediate postoperative complications were few; they were pain, retentions of urine and vomiting. (Table-4) Urinary retention was treated with one time urinary bladder drainage. None of them required indwelling catheter.

None of them required indwelling catheter.

Patients were discharged home after 4-6 hours when he had adequate control of pain, no nausea or vomiting, correct orientation and passed the urine himself in the toilet.

Table-1: Surgical procedures:

S.No	Procedure	No of cases
1	Lat sphincterotomy	274
2	Hemorrhoidectomy	138
3	Fistulotomy	63
4	Herniaorraphy	44
5	Herniaotomy hernia	5
6	I & D	64
7	Rectal Polyps	11
8	Circumcision	30
9	Hydrocoel	12
10	Pilonidal sinus	6
11	Breast Lumps	9
12	Breast abscess	4
13	orcheoplexy	1
14	orchiectomy	1
15	Theirche's wiring	3
16	Gynaecomastia	4
17	Vasorrhaphy	2
18	I/C Tubing	1
19	Ranula	2
20	varicocoel	1
21	Small skin grafting	3
22	Small tumors	18
23	Angular Dermoid cysts	16
24	Leukoderma excision	4
25	Hypertrophied anal papilla excision	5
26	Perianal hematoma drainage	28
27	Salivary duct stone	1
28	Contracture release	3
	Total	753

Table-2: Age group

S.No	Procedures	No of cases
1	Band ligation piles	934
2	Cryo for piles	46
3	Sigmoidoscopy	77
4	Cystoscopy	34
5	Small Cysts	62
6	Biopsies	12
7	Nail excision	4
8	Tongue tie	15
9	Amputation fingers	3
10	Small suturing	5
11	Vasectomy	3
12	Liver abscess aspiration	3
13	Foreign body removal	1
14	Curettage of sinuses	3
	Total	1202

Table 3: Age incidence:

Age group	No of patients	Percentage
20 years or less	76	10.09%
21 -40 Years	402	53.39%
41-60 Years	219	29.08%
61 Years and above	56	7.44%
Total	753	100

Table-4: Post op. complication.

Age group	No of patients	Percentage
20 years or less	76	10.09%
21 -40 Years	402	53.39%
41-60 Years	219	29.08%
61 Years and above	56	7.44%
Total	753	100

Discussion:

Increasing pressures on the health care resources as well as advances in anesthetic and surgical technique have led to rapid expansion of day care surgeries. Patients welcome this changes because surgery causes minimal disruption to their working and domestic life. Day care surgery is defined as surgical or invasive diagnostic procedures performed by surgeons in a surgical suite or specialized area with pre-procedural and post-procedural care on the same day without hospitalization [4].

Day care or ambulatory surgery is now an established mode of surgery. In India a day care Operation Theater was started in All India Institute of Medical Sciences (AIIMS), New Delhi in 1995 with most of routine surgery being done in the day care OT [5].

The International Association for Ambulatory Surgery was formed in 1995 . Initially located in Brussels, the Central Office was transferred to London (Royal College of Surgeons building) in 2004 [6].

The British Association of Day Surgery (BADS) or audit Commission of U.K. recommends 20 surgical procedures that can be undertaken as day care surgery. List is updated to 25 procedures in audit commission's report 2000[7]. We also did almost all the procedures from the same list in day care setup and found good results. Majority of our procedures were performed for ano-rectal diseases. Pravin J.Gupta 2006 operated 2830 patients of proctology on his day care set-up and found that proctological procedures can be successfully done as day care surgery [8].

A day care surgery offers many advantages over the indoor ones as the patient's life is minimally disturbed with a diminished anxiety. The incidence of nosocomial infection is minimum. There is earlier return to normal activities and a reduced time off work. The patient is usually more comfortable at home. The significant reduction in treatment costs and minimal pressure on hospital resources are the two major achievements of the day-care surgeries[9]. Though Day Surgery procedures require full operating theatre facility, it does not require ICU facility because complications arising after day surgery are usually minor.
In our country a study was conducted in a government hospital and reported up to 50% of reduction in the cost of surgical care by the use of Day Care Surgery [11]. Our patients also enjoy the surgery almost less than half charges when compare with hospitalized patients.

Immediate postoperative complications in inpatients and out patient's surgeries are comparable [10]. We discharged the patient after 4- 6 hours of surgery once they had passed the urine and had started taking oral feeds. Guidelines describe by Dave Nandini et al for Safe Discharge, That patient must be Oriented to person, place, and time, Able to retain orally administered fluids, Able to void, Able to dress and Able to walk without assistance.[12]

The most challenging problem in day care surgery is postoperative pain. Some workers compare the postoperative efficacy of intramuscular and patient controlled analgesia[13], but no literature is available mentioning oral analgesic is inadequate to control pain. We infiltrate local anesthetic at the site of incision during the surgery and insert a suppository of diclofenic in the rectum. With this measure patients hardly feel pain and can be very well managed with oral NSAID. In our cases only 2.12% patients require inject able analgesics in immediate postoperative period, but none requires hospitalization for pain.

Postoperative urinary retention was the other complication noted in our series in only 1.19% of patients. It is definitely very less when compared with the procedure done in spinal

anesthesia. It was managed by one time catheterization, non-needed indwelling catheter.

Patients operated on an ambulatory basis report faster recovery and better psychological adjustment. [14]. It is our observation also that acceptance for surgery is more in day care basis when compared with surgery after hospitalization. Patients are satisfied with day care procedure and post operatively least worried since postoperative instructions and care along with possible complications and their management is explained in the printed leaflet.

Conclusion:

The results of our day care set up shows that a number of surgeries can be performed in a day care setup without a full-fledged hospital. If the patients are properly selected postoperative complications remains minimum and can be managed in day care basis. Our overall complication rate was 4.68% that is very small. Proper counseling and detailed explanation of postoperative care is another important factor for successful day care surgery.

References

1. Row T. Naresh, Begani M.M., Day Care Surgery: A General Surgeons Prespective; Bombay Hospital Journal, Special Issue on Day Care Medicine and Surgery, April 2003, Vol.45, No.2, 206-210
2. Marti MC, Laverriere C. Ambulatory proctology surgery. Hel Chir Acta 1991; 57:512-514
3. Devlin HB. The scope of day care surgery(editorial). Br.J Hosp Med 1995; 54:244-5.
4. Department of veterans affairs.Veterans Health Sdministration. VHA Directive 96-046. Washington,DC 20420. Attachment to performance of Ambulatory (Same Day) Surgery. July 16, 1996.
5. Nagarajan SS, Sharma RK, Deka RC. The costing of common otolological surgical procedures so as to develop standard approach for introduction of a package system of charging the patients. Journal of the Academy of Hospital administration 200;12(2):61-3.
6. Lindsay Roberts. Day Surgery-National and International: From the Past to the Future. Day Surg J India, 2006; 2:8-11.
7. Audit Commission. Measureing quality: the patients view od day care surgery. HMSO: London; 1991.
8. Pravin J.Gupta. Feasibility of Day care surgery in Proctology. J Gastrointestine Liver Dis 2006 Vol.15 Nov, 359-362.
9. Russell IT, Devlin HB, Fell M, Glass NJ, Newell DJ.Day-case surgery for hernias and haemorrhoids. A clinical, social, and economic evaluation. Lancet. 1977; 16:844-847.
10. Bapat R.D., et al, Day Care Surgery in A Public Set Up, Bombay Hospital Journal, April 2001, Vol. 43, No. 2, 249-252.
11. Scheidegger A, Biaggi J. Ambulatory surgery clinic in a public general hospital. Organization and result. Swiss Surg 1996; 2: 171-175
12. Dave Nandini, Sahu Anjana, Discharge following ambulatory surgery - Current concepts and recommendations. Day Surg J India, 2008, 4:26-29
13. G.Sri Vengadesh, Sarath chandra Sistia, S. Robinson Smile Postoperative pain relief following abdominal operations: A prospective randomized study of comparison of patient controlled analgesia with conventional parenteral opioids. Indian J Surg 2005; 67:34-7.
14. Dick de Jong, A Surgeon's View on Ambulatory Surgery. Day Surg J India 2006; 2:17-21

Day Surgery for Haemorrhoides.

Gupta Pravin J.

Consultant Surgeon
Corrospondence:

Fine Morning Hospital & Research Center, Laxmi Nagar, Nagpur, M.S., India

Keywords- Day surgery, Haemorrhoides.

To cite this article:
Gupta Pravin J., Day Surgery for Haemorrhoids. Day Surg J India. 2010. 6:13-16

Paper received: March. 2010. **Accepted:** March. 2010. **Source of support:** Nil.

Introduction:

Proctological surgery is being carried out increasingly on an outpatient basis. The reasons for this are safe anesthetic procedures, short operation times and low complication rates. Hemorrhoid surgery can be performed under local, regional or short-term general anesthesia. In India, where the health resources are very limited, an outpatient hemorrhoid surgery will be cost effective while offering a high level of patient acceptance and satisfaction. However, an appropriate diagnosis of the disease, proper selection of the patients with respect to their suitability for surgery and a round-the-clock availability of patient communication with the nursing staff are a must for the successful outcome of the procedures.

Hemorrhoidectomy:

Surgery is advised for symptomatic third and for fourth degree hemorrhoids. It is estimated that about 10% of patients suffering from hemorrhoidal disease require surgical intervention.

The main surgical principles of hemorrhoidectomy comprise the elimination of the prolapsing vascular cushions alone or in combination with relocation of the squamous epithelium, thus reconstructing the anal canal.

Milligan-Morgan Procedure-

The Milligan-Morgan procedure is considered as the gold standard for hemorrhoid surgery. It is still the most popular open procedure for advanced grades of symptomatic hemorrhoids, which aims at eliminating the vascular cushions.

Today, most surgeons excise the hemorrhoidal cushions with monopolar diathermy because it bleeds less. With traction of the skin-tag and pedicle, the tension produced allows dissection in a plane that preserves the subdermal fascia that is continuous with the fascia that covers the internal sphincter. This procedure minimizes loss of tissue within the anal canal.

Ferguson's closed hemorrhoidectomy-

In contrast to Milligan Morgan hemorrhoidectomy, where the wounds of surgical dissections are left opened to heal by secondary intension, the Ferguson hemorrhoidectomy is aimed at total anatomical reconstruction of the normal anal canal. This is done by primary closure of all the wounds created after removal of the hemorrhoidal cushions. This procedure is more popular in the US.

Both methods are effective forms of treatment; in theory wound closure should offer faster healing, but this has not been shown consistently. Wound dehiscence after excision of three piles prolongs healing after closed surgery. Closed hemorrhoidectomy offers no advantage regarding postoperative pain, but performed carefully it leads to faster wound healing and less pruritus and discharge.

Whitehead hemorrhoidectomy-

Since its first description in 1882, the Whitehead hemorrhoidectomy has earned a reputation as a radical procedure for circumferential prolapsed hemorrhoids. This procedure ensues excision of the entire hemorrhoid bearing area of the anal canal as a tubular segment, the entire edge of rectal mucosa then being sutured circumferentially to the skin of the anal canal. This procedure has been found to be effective in circumferential prolapse or bleeding hemorrhoids, and in strangulated or gangrenous hemorrhoids.

However, the approach has been criticized because it is time-consuming and causes considerable blood loss, disturbed continence, ectropion of the rectal mucosa, and stricture formation, and now being used rarely by surgeons.

Newer approaches to hemorrhoidectomy:

Recent advances in instrumental technology and use of

various energy sources have provided new alternatives in hemorrhoidectomy.

These include bipolar scissors, which are dissecting scissors incorporating a bipolar cautery device, use of radiofrequency, and ultrasonic waves. The bipolar cautery allows better hemostasis, while the scissors serve the usual dissecting function during surgery.

Harmonic Scalpel- (UltraCision, Ethicon Endo-Surgery, Inc., Cincinnati, OH) is a new instrument that makes use of a different energy source to carry out hemorrhoidal dissection. The Harmonic Scalpel vibrates at 55,500 Hz per second, with the blade traveling 50 to 100 microns per stroke. The Harmonic Scalpel cuts by two mechanisms. First, rapid vibrations disrupt hydrogen bonds within the protein structure, leading to the formation of a coagulum that seals coapted vessels up to 5 mm in diameter. There is minimal tissue desiccation, char formation, and zone of thermal injury compared with electrosurgery. A second cutting mechanism is known as cavitational fragmentation, in which low-density tissues are disrupted, leading to separation of anatomic tissue planes. The second effect is brought about by cavitational bubbles produced by vaporizing fluids at low (37°C) temperatures, which potentially minimizes thermal injury and associated energy transfer.

Because the instrument operates at temperature less than 100°C, it is associated with less undesirable tissue trauma. The Harmonic Scalpel results in a minimal lateral thermal injury, and this is believed to be the reason for the diminished postoperative discomfort.

Various comparative studies have not found any specific advantage of this device in postoperative pain, fecal incontinence, operative time, or complications compared with traditional closed hemorrhoidectomy. The operating time is said to be much longer than the conventional techniques, mainly because the hemostasis is time consuming and less effective.

The Ligasure™ Vessel Sealing System- (Tyco Healthcare, Boulder, CO) is a another device that uses a combination of pressure and electrical energy, enabling coagulation of vessels with minimal surrounding thermal spread and limited tissue charring. The instrument is proposed to cause bloodless excision of hemorrhoids with minimal tissue trauma, thus reducing the postoperative pain and wound healing time.

During this procedure, the anus is dilated by using an Eisenhammer retractor and the Milligan-Morgan hemorrhoidectomy is performed for all the quadrants. Ligasure ™ is applied across the skin tags, then the hemorrhoids, and finally the pedicles. The feedback sensor signals completion of coagulation. Coagulated tissue is excised with scissors. Repeated applications of LigaSure are needed for complete excision of the hemorrhoids. The procedure did not include pedicle ligature, use of diathermy, or anal tampon at the end of the procedure.

LigaSure hemorrhoidectomy may result in a significant reduction in operative time and blood loss, but it may not confer any advantage over the conventional operation in terms of postoperative pain, length of hospital stay, or time taken to return to work or normal activity. Similarly, long-term evaluation of outcomes and morbidity are not available.

Another significant disadvantage with the LigaSure system (as has been noted with all new techniques) is the expense incurred. The list price of the disposable electrode is quite high and represents a direct addition to the cost of the procedure.

Laser hemorrhoidectomy - Hemorrhoidectomies using Laser devices were proposed in early 21st century from various centers. However, the initial enthusiasm was seriously tempered because of various factors and the cost containment of the device. This technique is proposed as a painless procedure with a shortened healing time however; no documented studies support these claims. It has no advantages over standard techniques; it is also quite expensive and no less painful.

Moreover, studies found that there was no difference in the immediate results after Milligan-Morgan hemorrhoidectomy using either the laser or cold scalpel regarding postoperative pain, complications, healing time, return to normal activities or patient satisfaction. The use of lasers for performing hemorrhoidectomy is almost abandoned nowadays.

Stapled hemorrhoidopexy- In 1998 Longo presented the procedure for prolapsing hemorrhoids (PPH), also known as stapled hemorrhoidopexy, as a new treatment. A circular stapling gun is used to excise a doughnut of mucosa from the upper anal canal and lift the hemorrhoidal cushions back within the canal. This results in resection of excessive internal hemorrhoidal tissue, pexy of the internal hemorrhoidal tissue left behind, and interruption of the blood supply from above. Stapled hemorrhoidopexy can be done as an outpatient procedure, using local anesthesia with intravenous sedation.

As this procedure avoids a cutaneous incision it was assumed to cause less postoperative pain and a faster recovery than conventional excision. Evidence shows that stapled hemorrhoidopexy is a less painful procedure, with a shorter inpatient stay and faster return to work.

Stapled hemorrhoidopexy does not directly affect the external tissue. Reports have described shrinking of external hemorrhoidal tissue after stapling, probably from decreased blood flow.

Good results from stapled hemorrhoidopexy combined with judicial excision of occasional skin tags also have been reported. However, stapling increases operative costs; advanced surgical skills are necessary; and there is a learning curve. Stapled hemorrhoidectomy may cause a full thickness excision of the rectal wall and injuries to the anal sphincter, and it does not allow for the treatment of concomitant anal disease.

Stapled hemorrhoidopexy is a safe technique for the treatment of hemorrhoids but carries a significantly higher incidence of recurrences and additional operations compared with conventional hemorrhoidectomy. It is the patient's choice whether to accept a higher recurrence rate to take advantage of the short-term benefits of stapled hemorrhoidopexy.

Stapled hemorrhoidopexy has resulted in potential serious morbidity and even mortality in the immediate postoperative period. As the procedure has spread in popularity around the world, so too, it appears, have these severe, life-threatening complications. The reported complication rates are as high as 31%. Although some complications are similar to conventional hemorrhoidectomy, most are specifically technique-related. Stapled hemorrhoidopexy presents unusual and challenging complications. These complications are often heralded by abdominal pain, urinary retention, and fever. Surgeons should be aware of all of the potential complications and associated warning signs and symptoms of stapled hemorrhoidopexy. Abuses should be minimized and longer-term studies are needed to further clarify its role.

Doppler guided hemorrhoidal artery ligation- Also known as transanal hemorrhoidal dearterialisation, this procedure represents a new approach to the treatment of internal hemorrhoids. With this device selective ligation of the arteries supplying the hemorrhoids can be done after identifying them using an ultrasound sensor. The procedure can be performed on ambulatory patients under local anesthesia. An anoscope is used which incorporates a Doppler head. The superior hemorrhoidal arteries are identified under guidance of the arterial Doppler sound and ligated through a window located just above the Doppler head. The procedure requires about 30 minutes. This procedure is less painful with earlier return to work. But as it has high recurrences in prolapsing hemorrhoids (more than 15%), it is now supplemented with hemorrhoidal mucopexy where few transfixing sutures are applied over the hemorrhoidal cushion to control prolapse.

Hemorrhoid ligation procedures

Sporadic reports of suture fixation of prolapsing hemorrhoids have claimed fair outcome of the procedure in advanced grades of hemorrhoids.

These procedure of ligation of hemorrhoidal cushion has a long history and are termed with various nomenclatures like 'pile suture', 'obliterative suture technique', 'ligation and anopexy' and 'ligation under vision', 'transanal hemorrhoidopexy', 'hemorrhoidal plication', 'hemorpex' and 'radiowave ablation and mucosal fixation' etc.

Emergency hemorrhoidectomy

Acutely strangulated hemorrhoids occur as a result of thrombus formation resulting in gross swelling, irreducible prolapse, and severe pain. Emergency debridement is indicated and provides rapid pain relief and recovery. This may have a higher early complication rates when compared with elective surgery; septic complications are, however, not increased.

Hemorrhoidectomy as day care surgery

It has now established that day case hemorrhoidectomy is feasible in more than 80% of selected patients and have resulted in a high degree of satisfaction among patients. This requires a standardized protocol of education for patients in lowering the expectation of pain and a preoperative local anesthetic block to reduce immediate postoperative pain. Laxatives will reduce pain during the first postoperative motion, and restricting perioperative intravenous fluid will minimize the risk of urinary retention. Successful day surgery is dependent on adequate community nursing, to encourage the appropriate use of analgesics and reassure patients. Some 5-10% of patients undergoing day case hemorrhoidectomy may require readmission due to various complications.

Telephone follow-up can reduce the number of outpatient visits following day care hemorrhoid surgery whilst maintaining a high level of patient satisfaction. However, it requires considerable consultant time. This process could be developed into either a nurse-led service with booked telephone appointments or a patient-led service to a dedicated hotline.

Important points in surgical treatment of hemorrhoids as day case:

- The ideal technique should combine high safety and efficacy of the treatment with low postoperative pain and discomfort for the patient and with a low-cost treatment.
- Conventional hemorrhoidectomy by Milligan and Morgan is still the most widely used and effective treatment for patients with symptomatic Grades III and IV hemorrhoids. However, it is associated with significant postoperative pain.
- In hemorrhoidectomy, excessive tissue trauma can result in postoperative pain and sepsis. The resulting pain-related complications and infective complications are often the key

factors that prolong hospital stay and delay patient recovery.

- The incidence of post hemorrhoidectomy secondary bleeding was found to be more in males than females. Use of antibiotics and aseptic preparation during the surgery help reducing the incidence of secondary hemorrhage.
- Newer instruments and techniques may be a useful tool of the proctologist's armamentarium with selective indications, but not as part of the routine treatment of hemorrhoids as has been advertised, projected and utilized. It is better for the surgeon to be clear in his understanding that there is no single operation for hemorrhoids, which fits all.
- As now most of the insurance companies have accepted to reimburse the cost of surgeries performed on day care, it is expected that more and more surgeons and patients would opt for outpatient hemorrhoid surgery, which would be beneficial to both patients and the companies, and convenient to the surgeons.

Body Sculpturing as a Day Care Surgery.

Jahagirdar Sameer S.

Consultant Plastic Surgeon

Corrospondence:

27, Nav-Bharat Chambers, Central Bazar Road, Ramdaspeth, Nagpur, M.S., India

Keywords- Day surgery, Liposuction.

To cite this article:
Jahagirdar S. Sameer, Body Sculpturing as a Day Care Surgery. Day Surg J India. 2010. 6:17-22

Paper received: March. 2010. **Accepted:** April. 2010. **Source of support:** Nil.

Aesthetic surgery incorporates art, architecture and medicine. It is fascinating to have power to remodel a person's face, their body, and even their self esteem.

Beauty is a subjective word, one has its own definition of beauty but one has to believe, aesthetic surgery not only reduces, corrects or improves the deformity which may be a matter of subjective assessment but it definitely improves the self confidence of the patient. It feels like a magician to watch the patient's dramatic improvement in self confidence, well being and relationships with others.

That is the reason why Aesthetic surgery is also called as 'Psycho- surgery'!

Liposuction and Body sculpturing are the most commonly performed aestheticsurgeries in the world. It is being practiced since 60s and with more than 6,00,000 treatments a year and the count is increasing !

Today Liposuction is being done as a day care surgery in majority of Aesthetic surgery centers.

Who are the patients who can get benefit from lipo procedures?

These patients should not be overly obese. The biggest myth about lipo procedures is they are done to reduce weight. The truth is these procedures are not about reducing Kgs but are all about reducing inches! Patient's connective tissue needs to be flexible. Patient should have tried out weight loss approaches such as dieting and sports, exercises previously – with the conclusion that their problematic areas remain unaffected by low- calorie food and fitness training.

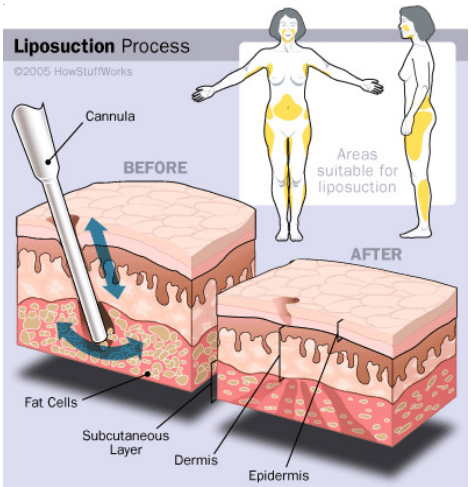
Choice of Anaesthesia:
Depending on the body area and choice of patient, done under local, Spinal or General anesthesia.

Techniques:

A) Tumescent technique (lat. *Tumescere = to swell)* :- This is the most commonly used method. Tiny incisions are made in the skin on top of the fatty tissue and approximately three litres of saline solution are pumped into the tissue through these holes. The fat cells absorb the liquid and swell up, which makes them easy to dislodge them. This solution contains local anaesthetic and adrenaline to reduce the blood loss.

The surgeon removes the loosened fat cells using a thin suction canula covering the tissue in a rapid powerful wiping motion, his other hand controls the suction. The procedure can last upto three hours and requires substantial lphysical stamina on the part of the surgeon. In large scale operations, general anaesthesia is used.

Liposuction and Lipoinfusion canulae

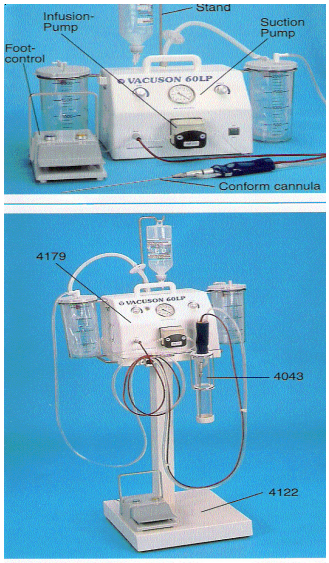


Schematic presentation of liposuction procedure

B) Power assisted liposuction (Lipolysis by vibration) (PAL): This is an enhanced variation of the tumescent technique, in large parts developed by Dr. Gehard Sattler, a German Surgeon. An electrically powered canual containing 24 suction holes, the "sattler canual", is used to agitate the fat cells upto 4,000 times per minute and literally shakes them out of the connective tissue.With this method , it is largely impossible to damage any blood vessels or nerves, and difficult areas with large amount of connective tissue (e.g. calves or ankles).

Since the suction is coupled with electrically powered canula its physically quite less taxing on the surgeon to perform this procedures. Another advantage of less bruising on the skin of patient after the procedure.

I am very happy to have it installed at a upcoming center for Aesthetic surgery like Nagpur.



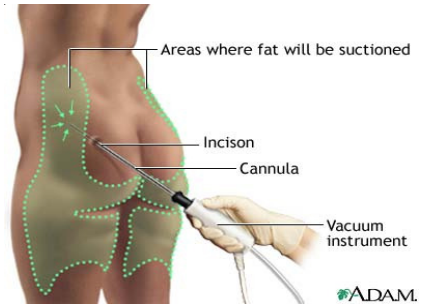
Power assisited Lipoplasty device

C) Ultrasonic Liposuction (UAL): This method complements the tumescent technique, employing special canulas that project ultrasound waves into fatty tissue which explodes and liquefies the fat cell without damaging the connective tissue.Its used predominantly for areas with a significant amount of connective tissue, e.g. the male breast or upper back, also for follow up operations.

Though the technique sounds advanced, it is more elaborate, requires a longer period of anaesthesia or sedation and contains risk of burning the skin and subcutaneous tissue.

D) Electrolipolysis : This procedure is generally combined with hormone therapy for treating cellulite. The surgeon inserts a fine acupuncture needleinto the fatty tissue and induces a light electrical current which makes the fat cell porous and the fatty acids drain out.

The procedure usually takes no longer than an hour. After 8 – 12 sessions, the orange –peel skin on the thighs should be gone.



What are the areas where liposuction can be done?

Liposuction offers varying degrees of success for different problem areas. Suction works well on the fat deposits on:

1. Hips
2. Upper thighs (*saddle bags)*
3. Waist
4. Inner thighs

Less well on:

1. Tummy
2. Neck, back of the neck
3. Double chin, Nasolabial folds
4. Cheeks

With partial success on:

1. Back
2. Buttock folds
3. Ankles

With little success on:

1. Back and front of the upper thighs
2. Calves

3. Lower arms

Miscellaneous conditions like Gynaecomastia : The procedure done is suction lipectomy with bilateral gland excision.

Before

After

Pre operative and post operative photograph of case with Gynaecomastia treated with Suction lipectomy with bilateral gland excision

---

Now the million dollar question is whether liposuction is a permanent treatment for excess fat?

Well, the answer is Yes and No both! Once the fatty tissue is removed, it is eliminated permanently – at least for the area treated. But unfortunately, weight and inches may still be gained in other parts of the body! For example, if liposuction is performed on the upper thighs, new fat pads may form on the hip or the lower abdomen.

Is it a one time procedure?

No, it generally requires multiple sittings, as there is limit to the amount of fat which can be removed in one sitting. It ranges from 4 – 6 liters (of aspirate, inclusive of the infusion).

Also, most of the surgeons prefer spread out approach so as to have greater control over contouring the body.

With liposuction procedure performed patient needs to wear elastic support / pressure garments which are essential for relieving swellings and haematomas and help skin adjust its new contours. 7 – 10 days after the procedure stiches are removed. Though the patient ready for the social life in one week , at the earliest it takes 6 weeks for the body to show its new contour.

What are the risk and possible complications with Liposuction?

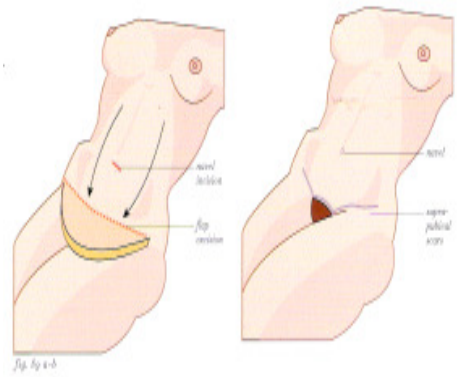
The risks involved in this procedure are pronounced swellings which may persist for 3 – 6 months or longer, particularly on the face and ankles, small scars (these are soon non distinguishable fro the normal skin), Stinging or numbness of the skin in the wound area for a week., Intense pain, especially where fatty tissue is located next to muscle tissue(e.g. back, upper hip, waist), Sensory nerve damage and assymetrical body outlines, bumps or dents in the skin surface.

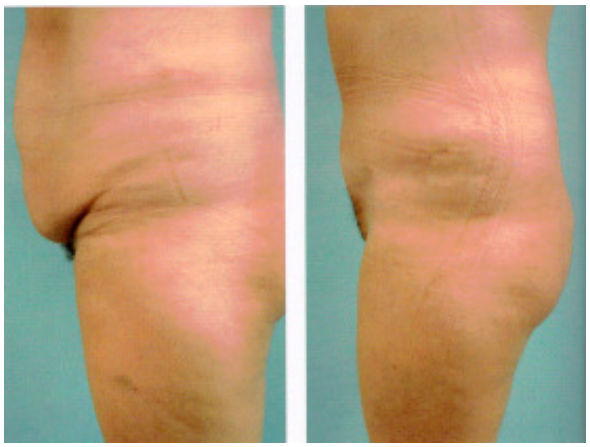
All these risks and possible complications are manageable.

The areas where only liposuction doesn't help much as discussed earlier, require additional surgical procedures like Lipectomy, or fascial tightening.

Various surgical procedures which are carried out for body contouring are :

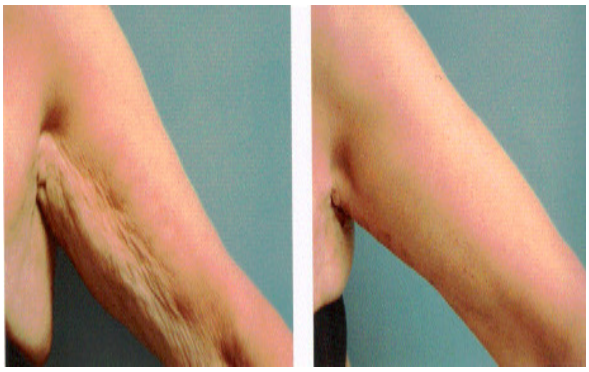
A) Abdominoplasty: Excess abdominal skin and fat tissue are excised using a arching incision made along the '*bikini line'*. The umbilicus is shifted to a new position on the abdomen. This procedure is also known as 'tummy tuck'. Now a days techniques are being developed to perfom this procedure through endoscopes. This is a major surgical procedure and requires general anaesthesia. Hospital stay is from 3 to 7 days. Possible complications are haematoma, infection, and flap necrosis.





Pre operative and post operative photographs of Abdominoplasty

B) Brachioplasty: This is also known as upper arm lift. The surgical cut runs from armpit down to the elbow joint.



Pre operative and Post operative photograph of Brachioplasty

C) **Thigh dermolipectomy or thighplasty:**

Other procedures are Calf augmentation and Buttock augmentation in which calf contours are enlarged with hard or soft silicone gel implants and Buttock augmentation is done with Round or drop shaped silicone gel filled implants. The implants are placed between gluteus muscles.

Conclusion: Liposuction is very effective Aesthetic surgical method for altering the body contour. For small localized fat removal it can be convieniently done as a day care surgery.

For more detail, log on to:

www.iaascongress2011.org

Day Care Surgery in India: Our experience over 10 years at a premier day care surgery institute.

Mulchandani Dheeraj V.*, Begani M. M.**

Consultant Surgeon Abhishek Day Care Institute & Medical Research Center.*
*Consultant Surgeon**Bombay Hospital Institute of Medical Sciences, Director, Abhishek Day Care Institute of Medical Research Center, Founder President, The Inidan Association of Day Surgery.*

Corrospondence:
74 / 78, Lady Ratan Tata Medical Centre, Cooperage, Mumbai-400021, M.S., India
E-mail: abhidaycare@hotmail.com

Keywords- Day care surgery, General surgery.

To cite this article:
Day Care Surg in India: our experiance over 10 years. Day Surg J India. 2010. 6:22-26

Paper received: April. 2010. **Accepted:** April. 2010. **Source of support:** Nil.

Abstract

The desire to keep up with the newer developments, the increased cost of hospitalisation, many fold increase in the inflow of patients from the rural areas to the metropolitan cities for treatment, lack of hospital beds, along with the fear of the word 'Surgery', has led the surgeons to rethink the art of Day Care Surgery. Abhishek Day Care Institute and Medical Research Centre, which will soon complete 10 years in this field, is a dedicated Multi speciality Day Care General Surgery Centre. The centre undertakes General Surgery, Minimal Access Surgery, Urology, Plastic Surgery, Orthopaedics, Vascular Surgery etc including GI endoscopies and chemotherapy. This is a retrospective study of cases performed at our centre.

Introduction

Day care surgery or Ambulatory surgery is not a new concept to Indian surgeons, the ancient Ayurvedacharya, Shushrut, in his work, mentions the use of ambulatory surgery centuries ago. Girnar Rocks maintain the concepts of hospitals in Ashok's Period. With the advent of Modern Medicine, the ancient art died a natural death. The change in the concept of surgical practice and the introduction of Private Practice has lead surgeons to find ways and means to refine and redefine their art and to make it more patient friendly.

The desire to keep up with the newer developments, the increased cost of hospitalisation, many fold increase in the inflow of patients from the rural areas to the metropolitan cities for treatment, lack of hospital beds, along with the fear of the word 'Surgery', has led the surgeons to rethink the art of Day Care Surgery. In the west, the concept of day care surgery has been in place for over 4 decades. More and more doctors are exposed to the 'latest' developments in medicine and find financing for the purchase of the equipment or get training in the newer modes of diagnostic or therapeutic skills.

As of now, the modern concept of day care surgery is growing, with centres dedicated to this concept coming up at a rapid pace and surgeons willing to practice this art. As a result, there is greater acceptance of the idea of being discharged on the day of surgery.

Material and methods:

The place of study was Abhishek Day Care Institute and Medical Research Centre, Mumbai, India. The data was collected comprising of patients that were operated during the period from June 2000 (when the centre opened) to March 2010.

Patient selection criteria:

- Age: more than 6 months old.
- Medically fit and stable patients {ASA I, II, III (well controlled)}.
- Well motivated and psychologically / mentally stable.
- Toilet, transport, telephone and responsible relation at home.

Patient preparation:

- Examination & diagnosis.
- Investigations (Haemogram, Blood Sugar, HIV, HBsAg, Urine, Stool, X-ray Chest, USG) .
- Medical fitness (Physician/ Cardiologist/ Diabetologist/ Anaesthesiologist).

- 4 hours fasting except in Laparoscopic Surgery
- Bowel preparation when required (Laxatives, enemas)
- Advise regarding pre-operative Medications (Inj. Tetanus Toxoid, Anti-Hypertensive, to stop Aspirin at least 2 days before surgery).
- The use of alparazolam or any other mild sedative given on the previous night, to help in reducing the anxiety of the patient.

Anaesthesia used:
Local anaesthesia in most cases along with some form of sedation if necessary.

Blocks regularly used:
- Pudendal.
- Ring.
- Field.
- Inguinal.
- Scrotal / Cord.
- Costal.

General anaesthesia (for major surgeries only):
These would include Diagnostic Laparoscopies, Laparoscopic / Laparoscopic Assisted / Open Appendectomy, Mesenteric Lymph Node Biopsies, Laparoscopic Varicocele surgery etc.

Mainly used were short acting drugs and I.V. sedation (Midazolam, Small Doses of Ketamine).

Criteria for discharge:
- The patient is fully conscious.
- Haemodynamically stable.
- No giddiness on standing.
- Able to walk without support.
- Tolerating orally without vomiting.
- No or minimal pain.
- Passed urine.
- Responsible person is present to take the patient home.
- No surgical complications.

On discharge:
- Written instructions.
- Verbal instructions.
- Contact numbers of all our team, including the operating surgeons, in case of any questions and complications.
- Instruction on how to look for complications and its management.

Results:

During the period of 10 years, we have performed 4506---- surgical procedures, 3948 OPD procedures and 1393 Endoscopic procedures under local anaesthesia and some form of sedation.

The types of procedures done along with their numbers are detailed in Tables 1-3.

Table 1 Day Care Surgeries

Type of procedure	Number of cases
1. Breast lump excision.	133
2. Hernias:	
- Inguinal.	332
- Femoral.	05
- Umbilical.	49
- Inscisional	25
3. Hydrocele.	133
4. Varicocele.	69
5. Vasectomy.	27
6. Haemorrhoidectomy (Open / Stapler).	2370
7. Fistula-in-ano.	261
8. Fissure-in-ano.	312
9. Pilonidal sinus excision and closure.	87
10. Abscess drainage.	336
11. Diagnostic laparoscopy.	38
12. Laparoscopic Varicose vein ligation.	14
13. Appendicectomy.	113
14. Gynaecomastia Excision.	21
15. Circumcision.	51
16. Lymph node biopsy.	130
Total	4506

Table 2. Office Procedures

Cases Considered as OPD Procedures	Number of cases
1. Toes nail excision.	83
2. Biopsy:	
- Muscle biopsy.	16
- Skin biopsy.	49
- Nerve biopsy.	00
3. Lipoma excision.	241
4. Sebaceous cyst excision.	278
5. Warts excision.	141
6. Corn excision.	70
7. Auroplasty.	94
8. Piles:	
- Sclerotherapy.	1,848
- Cryosurgery.	168
- Infra red coagulation.	523
- Crypts / papilloma excision	176
9. Ganglion excision	23
10. Hypospadiasis correction (adult)	07
11. Ascites/pleural tapping.	19
12. CLW	110
13. FNAC	102
Total	3948

Table 3: Endoscopies

Endoscopic Procedures	Number of cases
1.Gastroscopy	836
2.Colonoscopy	557
Total	1393

Complications:

- Appendicectomy: 6 patients (14.2%) had to be hospitalised overnight.
- Haemorrhoidectomy: 5 patients (1.11%) had to be hospitalised for secondary bleeding, managed conservatively, no transfusion had to be given.
- Bilateral hernioplasty: 1 patient (1.6%) had to be admitted due to excessive drowsiness.
- 8 male patients, with underlying Benign Prostatic Hypertrophy, had to be catheterised post operatively, as they went into retention. The patients were given a trial before discharge and if unsuccessful they were discharged with the catheter which was subsequently removed the following morning.

Discussion:

The History of Day Care or Ambulatory Surgery is as old as medicine itself. Ancient instruments and evidence of Ayurvedacharya Shushrut's work have been recorded long before modern medicine took birth. Nowadays, with improved knowledge surgical fields accompanied with good surgical skills and newer anaesthesia drugs, it is possible to provide more benefits to patient as well as the surgeon. The availability of Minimally Invasive Surgery along with ever evolving technology in all fields has led to safer day care surgery[8].

Definitions of Day Care Surgery have varied from country to country, The Day Surgery Operational guide, issued by the Department of Health, U.K., has described Day Surgery as: the admission of selected patients to hospital for a planned surgical procedure, returning home on the same day. True day surgery patients are day case patients who require full operating theatre facility and / or a general anaesthetic, and any day cases not included as outpatient or endoscopy[1].

The American author of the book 'Major Ambulatory Surgery', by Dr. James E. Davis, describes day care surgeries as Minor Ambulatory surgery or outpatient surgery, as that care provided to non-hospitalised patients with immediate discharge of the patient; in such cases local anaesthesia is almost invariably used. Major Ambulatory surgery is defined as that surgery done under general, regional or local anaesthesia in which a period of postoperative recovery and / or observation is utilized before the patient is discharged home later the same day[2]. These include cases hospitalised up to 23 hours from the time of admission.

Factors relevant for the success of day care surgery:

Day care surgery demands the highest standards of professional skills and organization. Although, the operations could be minor, an anaesthetic is never minor. Listed below are some of the factors relevant for the success of day care Surgery[7].

a. Patient selection
b. Patient information
c. Preoperative assessment / tests.
d. Proper anaesthetic and post anaesthetic care
e. Patient acceptability
f. Audit

Patient Selection:

This is the key to the successful day care surgery. Selection is not simply a matter of choosing patients with conditions that may be treated on a day care basis, but also involves shifting out those patients who are unsuitable for medical and social reasons. Expected duration of surgery is also an important determinant of patient selection. Federation of Ambulatory Surgery Association (FASA) concludes: that incidence of complications is related to the duration of surgery and anaesthesia. In surgeries lasting for less than 1 hour, the complication rate is 1 in 55 patients and in surgeries of 2 hours, it is 1 in 55 surgeries[3].

b. Patient Information

Comprehensive and well presented information using lay terminologies for patients and their relatives is essential for the success of day surgery. Day Care patients, unlike in-patients, do not have ready access preoperatively and postoperatively to health care professionals to answer their questions and deal with their queries. As suggested by Baskerville et al[4], the information given to patients should commence with a brief description of the condition for which they are being treated and the procedure being undertaken. This is followed by instructions regarding what patients must do before coming to the unit, the postoperative analgesic regimen, what they should do at home, and what is expected in the days following their operation. Finally, patients need advice on when they can return to various activities. Perhaps the utmost information that must be given to the patients is related to the problems that might arise at home following surgery and how to deal with those. This will include advice on self-medication and when to seek professional help.

c. Preoperative Assessment / tests

An asymptomatic low risk patient does not need a battery of screening tests unless the medical history or the physical examination suggests otherwise. In paediatrics, routine haemoglobin (Hb) evaluation and urine examination are done. In adults above 40 years, in addition to Hb and urine, ECG is also required. In older patients (patients >50 years, chest X-ray and serum glucose are also advised. The preoperative assessment should be detailed and similar to in-patients.

d. Post anaesthetic care

Several recent innovative facilities for post anaesthesia care

after outpatient surgery have allowed surgeons to do more complicated surgeries on sicker patients as outpatient procedures and have made outpatient anaesthesia less risky.

In an overnight stay unit (23-hour admission unit): post-surgery patients are observed overnight but discharged the next morning, within 23 hours of surgery. This course overcomes the arbitrary limit to quality for reimbursement as an outpatient procedure.

After the operation, vital signs are monitored till the patients are ready to be discharged. A detailed discharge slip is given, including the details of the procedure / postoperative analgesia, when to remove sutures and on follow up appointment.

e. Patient acceptability

Methods of gauging the acceptability of day care surgery in patients is to look for a number of unsolicited complaints, incidence of readmission after patients have returned home, and postoperative complication rates.

f. Audit

As in other areas of practice, audit is essential to maintain and improve standards. Each unit should audit its own complication rates and patients opinion to determine the relevance of regional or general anaesthesia.

Contraindications for Day Care Surgery:

These are becoming more and rarer with the advent of newer techniques of anaesthesia and modern 'fast-track' surgery and minimal access surgery[6].

- Medically unfit for discharge on the same day.
- Mental retardation / psychologically unstable.
- Highly infectious disease.
- Upper respiratory tract infection.(Now manageable with newer anaesthetic drugs)
- Premature or less than 6 month old babies.
- Requiring extensive post-op monitoring.
- Long distance from home. (Possible if living close to a hospital/nursing home)
- Shock / trauma.
- High fever.

Our Set-Up

We have a dedicated day care centre consisting of 7 beds, Endoscopy room, consulting and examination rooms and a fully equipped operating theatre.

Staffing includes 2 general surgeons and an anaesthetist, 2 junior doctors, who work in shifts and are trained by us to manage Day surgery cases, 3 nursing staff, 3 auxillary staff and a manager and receptionist.

Procedure:

Most of our patients were operated under local anaesthesia and sedation. We extensively use local blocks and sedation is given in the form of Midazolam, Pentazocin, and/or Ketamine. The combination given by our anaesthetist, is just to cover the pain at the time of its injection, after which, we prefer our patient to be conscious and awake. Once the local anaesthesia has acted, there is no pain and patient's apprehension is reduced. Local anaesthetic used is usually 2% lignocaine with or without adrenaline and 0.5% bupivacaine, mixed in equal amounts, injected through a 27 G needle. History of sensitivity is taken prior to surgery and/or test dose is given on the table.

Skin crease incisions are taken wherever possible, with minimal dissection as required. Closure is achieved with sub-cuticular fine absorbable suture material. The patient is mobilized immediately and given oral intake within 30 - 120 minutes. The patient is sent home after a maximum stay of 8 hours. A regular follow up record is kept. A home visit by one of our team doctors or a phone call is mandatory for every patient before the centre is closed for the night.

Conclusion:

Day surgery seems to be the answer to many of our problems (including some that you will recognise) - lack of hospital beds, long waiting lists, an increasingly expensive health care system, virtually non existent medical insurance and a lack of governmental funding to the private sector of health care. Day Care surgery is a cost effective proposition, even in public hospital set up[5]. Over the years, more and more cases have been added to the Day care list; still more needs to be done. Some of the doctors, including Surgeons, do not know that certain cases can be done as Day Care Surgery. We have just a handful of these dedicated day care centres in India, mostly located in bigger cities. There is a need for more and more dedicated day care centres admitting patients and discharging from their facilities directly, which is more convenient. Involvement of the referring doctor, especially the general practitioner, is invaluable; they are very beneficial in making sure that the patient follows the pre-operation instructions and help in the post-operative management.

There is an urgent need for increasing awareness among the medical, as well as, non-medical fraternity. This can be achieved by proper sharing of information on day care procedures with general practitioner and other referring doctors; carefully selected and well-motivated patients; no hospitalisation and early ambulation; skilled surgery and meticulous follow up; ensures good results, which are comparable, and even superior to hospitalised surgery. We had tried to take it as a mission to spread day care movement across the country so that our health care system could implement and benefit our colleagues. With this aim we

started the Indian Association of Day Care Surgery in 2003 with a membership of 36 people which has crossed over 300 to date. Lack of hospital beds, long waiting list, increasingly expensive health care system, virtually non existent medical insurance, lack of governmental funding to the private sector of health care, day care surgery seems to be the only answer, for the future[9]. 'Whether this patient should be sent home', needs to be changed to: 'Does this patient even need to be admitted?

Refrences:

1. Prof. A. Darzi, Dept. of Health, The Day Surgery Operational Guide, August 2002, U.K., 1-28.
2. Dr. James E. Davis, Major Ambulatory Surgery Today, 1987, USA, 33-57.
3. Federated Ambulatory Surgery Association. Special Study. Alexandria, Virginia USA : Federated Ambulatory Surgery Association, 1986.
4. *Baskerville PA, Heddle RM, Jerret PEM.* Preoperative information for the patient. Practitioner 1995; 229: 677-78.
5. Dr. R. D. Bapat, et. Al., Day Care Surgery in A Public Hospital Set Up, Bombay Hospital Journal, April 2001, vol.43, no. 2, pg. 249-252.
6. Mark Hitchcock Day Case Anaesthesia: the Surgical Perspective, Surgery, 1998, U.K. 141-144.
7. Prof Jyotsna Wig –The current status of Day Care Surgery – A Review, *Indian Journal Of Anaesthesia 2005; 49(6): 459-466*
8. Row TN, Begani MM. Day care medicine and surgery. Bom Hosp J 2003; 45 (2) : 183-7.
9. Row TN, Begani MM. Day care surgery in India. J One Day Surg 2003; 12 (4) : 53-4

Day Surgery-Impact of Minimal Access.

Thakur Mukund.

Consultant Minimal Access Surgeon
Corrospondence:

141, Shivaji nagar, Nagpur, M.S., India

Keywords- Day surgery, Laparoscopy.

To cite this article:
Thakur Mukund, Day Surgery-Impact of Minimal Access. Day Surg J India. 2010. 6:27-29

Paper received: April. 2010. **Accepted:** April. 2010. **Source of support:** Nil.

Developments in surgery and medicine have resulted in innumerable benefits to our patients. Increased knowledge of pathophysiology, healing process and early detection of disease have been accompanied by rapid evolution of techniques making medicine and especially surgery safer and therefore more capable of dealing with previously more unthinkable tasks. With all these advances the costs of surgical treatment has gone up and hence there is increasing requirement for more and more surgeries to be done on day care basis.

In today's world of hurry and worry, with hectic life schedule, it is difficult for the relatives to spare the time while the patient is in hospital. Hence the concept of day surgery is of benefit for those who have limited resources physically or financially.

The beginning of 20th century has seen a revolution in the field of surgical speciality encompassing all the specialities under one canopy, that of Laparoscopic surgery. A much older concept of surgery, again, involving most of the surgical branches, is Ambulatory or Day Care surgery. The benefits of both these modalities of surgical treatment have proved their validity and stood the test of time, resulting in tremendous advantages to the patient population. They have emerged a well established and scientifically researched, time tested surgical specialities. The combination of Laparoscopy surgery as Day Surgery far exceeds or supersedes any reservations we may have.

Although the emerging trends world over are tipping in favour of this technique, in India, it is yet to realize its full potential.

Anaesthesia forms the main stay of Day surgery. More so, in Laparoscopic Day surgery. Pre-anaesthetic preparations with NSAIDs and sedative/anxiolytics administered the day before the procedure helps in the intra-operative as well as the post-procedure recovery.

The rapid changes occurring in Day surgery, with inclusion of advanced surgical technique, ambulatory anaesthesia has emerged as a designated subspecialty. The development of better anaesthetic agents has given rise to newer terminologies like 'sedoanalgesia'.**2**

The details of techniques and drugs used in anaesthesia are beyond the per view of this article; here it suffices to say that, the availability and extensive use of drugs like Propofol, Acuronium, etc., the ultra short acting anaesthetic agents, have boosted post-procedure recovery, making day surgery possible the combination of patient selection criteria's for Laparoscopic surgery, as well as Day surgery, brings out important points, which, on further adaptation to our situation, will prove beneficial, as guidelines, for interested surgeons. Briefly, then, going into:

Patient selection:

1) Previous abdominal surgeries, especially laparotomies, are a relative contraindication to Laparoscopic surgery. However, a cut down method for the insertion of primary port, under vision, at the umbilicus, is a method of choice for safe placement of ports in previously operated cases. In addition, in cases, where, lower abdominal incisions are encountered, then the first placement of port at the xiphisternum would be safe to avoid suspected adhesions. For example, in previously operated cases of lower abdomen, with pfannensteil scar, undergoing Laparoscopic cholecystectomy or Fundoplication, can have ports inserted by the closed method as the adhesions will presumable be

in the pelvis.**4**

2) Body Mass Index: (expressed as: weight in kilograms divided by the height in meter square) of more that 35 kg/m2, is a general contraindication for Day case Laparoscopic surgery. The obvious technical difficulties during surgery as well as anaesthesia can increase the morbidity.

3) ASA (American Society of Anaesthesiology) I & II, that is, free from any medical disease. In selected cases, ASA III, well controlled, are selected for Days surgery.

4) Motivation, a patient who is prepared to 'get up and go' do very well in the day surgery set-up. A reluctant patient will be reluctant to go home. Therefore, it is recommended, that when selecting the patient, due care is exercised in explaining all the aspect of surgery, including psychological preparation for discharge on the same day.

5) Contraindications related to Specialty, for example: routine laparoscopic cholecystectomy is contraindicated in the presence of obstructive jaundice due to gallstones or dilated ducts on ultrasound. This situation requires preoperative endoscopic retrograde cholangiopancreatography (ERCP) or peri-operative laparoscopic exploration of the common bile duct. Such patients usually require post-operative hospitalization.

The combination of patient selection criteria's for Laparoscopic surgery, as well as Day surgery, brings out important points, which, on further adaptation to our situation, will prove beneficial, as guidelines, for interested surgeons. Briefly, then, going into:

Patient preparation:

There are no short cuts in preparations of a patient for Laparoscopic surgery, especially so, for Day Surgery. Patients should be completely worked-up including medical fitness, where necessary. Briefly: Investigations include: Haemogram, Bl. Sugar, HIV, HBsAg, Urine, Stool, X-ray Chest, ECG; USG, Liver and Kidney function-if indicated; Overnight fasting; compete liquid diet on the day prior. Bowel preparation (Laxatives, enemas); Advise regarding pre-op. Medications (Inj. Tetanus Toxoid, Anti Hypertensive, to stop Aspirin at least 4 days before surgery); The use of Alprazolam or any other mild sedative, on the previous night, helps in reducing the anxiety of the patient. Use of newer drug like Clonidene hydrochloride has added new dimension in the anaesthesia for laparoscopic procedures due to its numerous benefits **5**

Case Selection: **6**

I. General Surgery:

1. Diagnostic, Routine, Post Trauma.
2. Cholecystectomy,
3. Appendicectomy,
4. Heller's cardiomyotomy
5. Nissans fundoplication
6. Hiatus or diaphragmatic hernia
7. Hernia repair, inguinal or ventral
8. Biopsy: Liver, Lymph nodes, etc.
9. Adhesiolysis.(minor adhesions).

II. Gynaecology:

1. Diagnostic, Dye studies.
2. Biopsies.
3. Tubal ligation.
4. Ovarian cyst excision.
5. Salphingo-ooprerectomy.
6. Hysterectomy.
7. Adhesiolysis.
8. Tubal cannulation,
9. Ovarian drilling,
10. Myomectomies for small fibroids,
11. Endometriosis ablation,
12. Simple Oophorectomies,
13. Tubooplasty, fimbrioplasty.

III. Infertility: Operative Laparoscopic work.

VI. Urology:

1. Kidney Biopsy.
2. Renal cyst decortication.
3. Ureterolithotomy.
4. Pelvilithotomy.
5. Varicose vein ligation.
6. Lumber sympathetectomy.
7. Orchidopexy.
8. Nephropexy.
9. Simple Nephrectomy.

VII. Paediatric surgery:

1. Herniotomy.
2. Orchidopexy.
3. Diagnostic.

In general, those procedures which do not involve lot of bowel handling, where the bowel is not required to be opened, where the dissection remains clean, where there is not much of blood loss, and the haemostasis is to the satisfaction of the surgeon, these will have uneventful post-op course. These can be included in the basket. It is worth mentioning about the procedures done on the lower end of oesophagus and diaphragm, wherein minimal access has made a lot of difference because of excellent visibility of the region by this technique. Along with this, the proper

positioning of the patient during these surgeries virtually reduces the job for assistant.

It is worth mentioning that following the guidelines regarding operative techniques right from the port placement to port withdrawal and port closure, using proper instruments for individual steps, using energy sources properly, will reduce the chances of complication to the minimum exploiting the full potential of this technique.

Safety measures:

1. Team approach, involvement of Family Physician or referring doctor in the post-operative care is very important. He should be specifically informed about the complications pertaining to laparoscopy and how to deal with them.

2. Patient should fulfill the Discharge criteria's: no pain, no giddiness, no vomiting, able to walk without support, presence of relatives, explanation of complications and its management, contact numbers of the team of doctors and doctors near the patients residence, etc. help reduction of complications.

The economical implications of Day surgery are tremendous, a study on the socio-economical aspect of Day surgery in a public hospital set-up, in India, was an eye opener as to the implications of savings to the government exchequer **7**. It has shown the cost of major Day surgical procedures to be one third the cost of admitted patients.

Similarly, its application to laparoscopic surgery, in DCLC (Day Care Laparoscopic Cholecystectomy), as shown by a group in an exhaustive study in India, has indicated, along with various observations, favourable economic solution. **8**

Several factors, indigenous to that country, govern policy makers' decision. Similarly, in day surgery too different countries have adopted the concept for the reasons most favorable to them. The Americans introduced medical insurance, the cost of medical care could no longer be borne by average person, insurance company thus forced the medical care specialist to cut costs, made him think and thus, adapt the benefits of Day Care surgery. In U.K., the long wait list, where patients had to wait for several years for surgeries, NHS could not cope-up with the work load, Day care solved the problem.

In India, we find a mixture of both the above problems already staring at us, therefore, over several years, Day Surgery, which has now evolved into an art form, is more and more being utilised by our surgeons. **9**

There are several issues that need to be addressed.

The review of literature brings to the fore the changing scenario of surgical practice. Laparoscopic Day surgery is a viable option in expert hands. Good amount of research has gone into setting up of safety parameters and criteria's' for patient preparation and selection, but, they need to be addressed in a different perspective for its application in a developing country like ours. At present it suffices to feel excited at the prospect of getting affordable surgical treatment for major surgeries without getting into the hassle of admission or discharge, avoiding hospital born infection and returning to the comforts of your home, without compromising patients care.

Reference:

1. One hundred cases of laparoscopic subtotal hysterectomy using the PK and Lap Loop systems. Erian J, El-Toukhy T, Chandakas S, Theodoridis T, Hill N., Gynecology Department, Princess Royal University Hospital, Orpington, Kent, United Kingdom. J Minim Invasive Gynecol. 2005 Jul-Aug;12(4):365-9.
2. Day-Case Anaesthesia and Sedation: Snyder, Douglas S. MD Assistant Professor, Department of Anesthesiology and Critical Care Medicine Johns Hopkins University School of Medicine 601. North Caroline Street Baltimore, MarylandAnesthesiology: Volume 82(1) January 1995 p 324.
3. Protocols of a Day Surgery Centre, author Row T. Naresh, Founder, The Indian Association of Day Surgery, Published: April, 2005.
4. Day Case Laparoscopic Cholecystectomy, Doug McWhinnie, Jenny Ellams, Joe Cahill, Ian Smith; A British Association of Day Surgery Handbook, Published: December 2004.
5. Day Care Surgery in India, T. Naresh Row, M. M. Begani, The Journal of One Day Surgery, Spring 2003, vol. 12, no. 4, The British Association of Day Surgery, UK, 53-54.
6. Day Care Medicine & Surgery, Special issue of Bombay Hospital Journal, Row T. Naresh, Begani. M. M., April 2003, Vol. 45, No. 2; 187-283.
7. Day Care surgery-socioeconomic need of the hour, R. D. Bapat, Chetan.V. Kantharia, Dept. of General & Surgical Gastroenterology, KEM Hospital, Parel, Mumbai. Bombay Hospital Journal, Vol. 45, No. 2, April 2003; 191-193.
8. Feasibility and safety of day care laparoscopic cholecystectomy in a developing country, S Bal, L G S Reddy, R Parshad, R Guleria and L Kashyap, All India Institute of Medical Sciences, New Delhi, India; Postgraduate Medical Journal 2003;79:284-288.

Multispecialty in One Day Surgery.

Row T. Naresh*, Dande Seema P.**

**Consultant Day Surgery Specialist, ODSC-Babulnath Hospital, Mumbai.*

***Consultant Gynacologist, ODSC-Dande Hospital, Nagpur.*

Corrospondence:

One Day Surgery Centre-Babulnath Hospital, 15, Sadgurusadan, Babulnath Road, Mumbai, M.S., India

Keywords- Multispeciality, Day surgery.

To cite this article:

Row T. Naresh, Dande Seema P., Multispeciality in One Day Surgery. Day Surg J India. 2010. 6:30-37

Paper received: April. 2010. **Accepted:** April. 2010. **Source of support:** Nil.

Introduction:

Day Care or Ambulatory surgery is a concept familiar to surgeons since time immemorial. More so now, as it has been re-evolved into a speciality in the modern medical care scenario, the world over.

Varying names and definitions have been given to this concept: Day Case, Day Surgery, One-Day Surgery, Major or Minor Ambulatory Surgery, Day Care Surgery, etc.

Definitions vary from country to country, depending on the necessity of adapting this concept. Broadly: Day Care or Ambulatory surgery in one wherein, the patient can be discharged on the same day of surgery or invasive procedure.(***1***)
These exclude minor procedures and Endoscopies performed for the purpose of diagnosis only.

A surgical Day Case is a patient who is admitted for an operation on a planned non-resident basis and who nonetheless requires facilities for recovery. The whole procedure should not require an overnight stay in a hospital bed. ***(2)***

A certain period of post-procedure observation would depend on the nature of surgery and the anaesthesia used, but a fully equipped operation theatre and facility for observation along with nursing care is mandatory.

Based on this concept, we have retrospectively analysed cases performed at One Day Surgery Center-Babulnath, Mumbai and One Day Surgery Center-Dande Hospital, Nagpur, two dedicated Multi-speciality Day Surgery Centres, performed over a period of last 1 years.

Set Protocols have been followed at these centres for Case selection, Preparation, Discharge and follow-up. ***(3)***

We take this analysis to present the concept of Day Care Surgery and its benefits.

Objectives:

- Analysis of the overall rate of complication of Day Surgery Cases.
- Propose to recommend practice parameters for Day Care Surgery.
- Recommend a list of surgical cases, which can be performed as Day Case, with proper case selection.

Material and Method:

Place of study: One Day Surgery-Babulnath Hospital, Mumbai, a Metropolitan city and One Day Surgery Center-Dande Hospital, Nagpur, a Rural city in India.

The patients analysed were operated during the period from April 2009 to March 2010.

Total number of cases analysed : 885, under the following headings:

1) Major Surgical Procedures : 501 (**Table 1**).
2) OPD (Minor) Procedures : 384 (**Table 2**).

Certain Criteria's were used for Case / Patient selection, to decide those best suited for Day Surgery. These are enumerated in **Table 3**.

Apart from these criteria's, certain contraindication, in general, to any type of Day Surgery have been identified and put to practice while deciding the best option for the patients are shown in **Table 4**. They have been divided into absolute and relative contraindications.

While preparing the patient for the surgery, after medical examination and establishing a diagnosis, certain routine investigations have been done for all the cases. They include Haemogram, Blood sugar levels, HIV, HBsAg, Urine (Routine), Stool, X-ray Chest, Ultra-sonography of abdomen / pelvis, if indicated.

Medical fitness was taken wherever found necessary. Cases were discussed with the anaesthetist routinely, prior to surgery.

Patients were kept fasting overnight, irrespective of the nature of surgery, as a precaution.

Bowel preparation was given to all patients undergoing anal procedures, in the form of laxatives, intestinal lavage and / or enemas, on the night before and / or on the day of procedure.

Pre-operative medications: aspirin is stopped 2 days prior to surgery, anti-hypertensive medications are given with a sip of water on the morning of surgery. Tetanus Toxoid injection was given to all the patients undergoing surgical procedure.

Mild sedative or anxiolytic drugs were prescribed to patients who were found to be anxiety prone, on the night before, in cases of adult patients and in the early morning, in case of children.

Anaesthesia used:

most commonly used anaesthesia was Local anaesthesia: a combination of 2% Lignocaine HCl (with or without adrenaline), mixed in equal quantity of 0.5% Bupivacaine, with or without some form of sedation.

Local or Regional blocks commonly used by us:
Field block: Lipoma, Sebaceous cyst, Umbilical hernia, Inscisional hernia, Carbuncle, Breast lump, etc.
Ring block: Nail excision, Pyronychia drainage, Circumcision, etc.
Cord / Scrotal block: Hydrocele, Vasectomy, etc.
Inguinal block: Hernia, High ligation for varicocele, etc.
Pudendal block: Piles ex., Fissurectomy, Fistulectomy, Anal dilatation, etc.
Coastal block: Epigastric hernia, Inscisional hernia, etc.
Short General anaesthesia: (in the form of Halothane and Nitrous-Oxide): D & C, Cystoscopy, Lap. TL, etc. .

Sedation in the form of Midazolam: 1-2 mg, Pentazocine: 15-30 mg, Small doses of Ketamine: 10mg-100mg, have been used in almost all of our patients**.** Children requiring surgery in Day care set up do extremely well with an induction dose of ketamine of 2-6 mg / kg body weight, given intramuscularly.***(4)***

Break-up of cases requiring anaesthesia**:**
Number of cases requiring only LA: 279.
Number of cases requiring LA + Midazolam + Pentazocin: 186.
Number of cases requiring LA + Midazolam + Pentazocin + Ketamine: 350 .
Number of cases requiring Inhalation anaesthesia: 70.
Total no. of Major and OPD (Minor) cases requiring Anaestheisa: 885.

Procedure:

The local anaesthesia is injected through a 27 G needle. The pain felt during the injection is covered by the sedation, so that the patient is pain free while injecting the local anaesthesia.

Once the local has acted, there is no pain and patients' apprehension is reduced, the procedure is undertaken and by the time it is over, the patient is out of the sedative effect. Post-procedure recovery, in the form of drowsiness is dose related, therefore, requiring a few hours of observation.

History of sensitivity is taken prior to surgery, previous history of procedures under local anaesthesia, for example, dental procedures; gives a fairly good idea as to the patient's sensitivity. On-table sensitivity test is done in all patients.

Skin crease incision is taken wherever possible, minimal dissection, sub-cuticular closure performed with fine absorbable suture material.

Patient is almost immediately mobilized; oral liquids are started within half to two hours, depending on the sedation given.

Patient is sent home after a maximum stay of 8 hours, once we are sure that the patient fulfils the Criteria's for discharging the patient. Verbal and written instructions are given to the patient and attendant. Discharge file includes Post-procedural instructions along with all the contact numbers of our team of doctors.

Patient is called for follow-up next day or after 48 hours.

Criteria's for discharge:

We have worked out certain simple rule of the thumb to help us in instructing the patient and reduce complications. Patients are not sent unless they are fully conscious, Haemodynamically stable, No giddiness on standing, able to walk without support, tolerating oral feeds, no or minimal pain, passed urine, responsible person is present to take the patient home and there are no post-procedural complications.

Patients discharge file contains instruction on medication, wound care, post-procedural instructions, including how to look for complications and manage them, most of all: contact numbers of all our team of doctors.

A visit from our team of doctors or a phone call is mandatory.

Complications:

Out of the 885 patients who under went procedures at our centres, 501 cases were major surgical procedure, following complications were noted:

Haemorrhoidectomy: 79 patients were operated; 1 patients had secondary haemorrhage within 24 hrs. post-operatively. Both patients were managed conservatively. 1 patient was taken for examination under anaesthesia, but no obvious cause could be found. No blood transfusion was given in either of the cases. The complication rate in this group was 2.53%.

Hernioplasty: 49 male patients were operated for both sides in the same sitting; 1 patient needed overnight hospitalization due to excessive drowsiness post operatively, therefore, 2.04% complication needing overnight hospitalization. 1 patients having underlying prostatic hypertrophy went into urinary retention, post-operatively, needing catheterisation. They were discharge on the same day with the catheter. This was taken as a complication and which was found to be: 2.04%.

Results:

Therefore, the overall complication rate at our centre was found to be: 0.45%; Complication in the Major post operative group was: 0.79%.

Discussion:

World over, more and more cases are being performed as Day Case.

With the continued development of scientific knowledge and modern technology, the discipline of surgery expanded into many specialities and single-subject sub-speciality, to the betterment of patient care.***(5)***

Although many general surgeons consider themselves to be hepatobiliary, pancreatic, laparoscopic or some-specialist, the truth is that virtually most of us perform our share of 'bread and butter, everyday procedures.

A general surgeon's regular OT list does not contain Hepatectomy, Colectomy, Parathyroidectomy and Pancreatectomy as part of the list of common surgical procedures. They are rare! Circumcision, incision and drainage of paronychia and scar revision are very common, and in fact perhaps more numerous than those listed above.(**6***)*

Countries pioneering this concept, are utilizing Day Surgery for the benefit of millions of patients. In the United States, Ambulatory procedures have risen from 27.7 million cases in 1994 to more than 40 million cases this year.***(7)***

In our country too, in a study conducted in a government hospital, up to 50% of reduction in the cost of surgical care has been shown by the use of Day Care Surgery.***(8)***

Minor surgical procedure forms the bulk of all the cases, undergoing procedure at our centre, though they do not come under the category of 'True' Day Surgery cases, these are considered to be OPD cases, are included in the Day Care Surgery list as the precautions have to be taken same as that of Major cases and some of them do need a good amount of sedation, hence, 3 to 4 hours of post-operative recovery period.

Day Care surgery as a speciality is still in its infancy in India. Though, this concept is widely used, cases are mostly done as part of routine list, where the patients are hospitalised and have to undergo the same formality as for indoor patients.

Now, there are some large hospitals in metropolitan cities, which have incorporated a separate Day surgery unit along with the causality, but these are few in numbers.

Free standing centres, that is, Day Care Surgery Centres, run by individual specialists, like and Opthalmic surgeon, ENT specialist or General Surgeon, are smaller in size as per the number of beds, to cater to a population of over a billion people. Also, they are very few in number; most of them are confined to the bigger cities.

Multispeciality, Stand alone, Day Surgery centres, are very few in numbers. Our centre is one of them.

There is a need for several dedicated day care centre with a fully equipped operation theatre consisting of Anaesthetic apparatus, Pulse Oxymeter, Cardioscope, Electrocautry, Defibrillator, etc. Recovery area or rooms, where post operative care is given by trained staff, helping in patient's recuperation and handling of complications, is mandatory.

Training of Medical and Nursing staff, dedicated and well versed in the management of Day Care surgery patients for the efficient functioning of the centre.

"Convenience" is the key word to be kept in mind while setting up a Day Care Surgery centre. In the metropolitan cities, restriction of space makes you innovative. Here one tries to provide every necessary detail required in the minimum of space, without compromising on the quality.(9)

The first modern day unit was established in 1969, in Phoenix, Arizona, USA. The 'Surgicenter' was the prototype of a 'free standing' unit, on which are based all centres all over the USA.***(10)***

Advantages of Day Surgery are many, they are time tested and proven, over a period of time, in our practice, the once which we found to be of significance are briefly illustrated: A day procedure, which does not entail overnight admission, makes it look like a 'Minor' surgery to the patient, therefore, reduces the anxiety of surgery, which always makes its presence felt when ever a patient hears the word 'Surgery'. Being a Day procedure, it reduces the hospital stay, thus reducing the chance of hospital acquired infection. Since most of the surgeries are done under regional or local anaesthesia, the side effects of general anaesthesia is considerably reduced, making it an ideal method of surgery in cases where general or spinal anaesthesia is to be avoided. Most of the patients have conscious sedation; their requirement for post-operative starvation is less. The recovery is faster and in familiar surroundings, which is very important for the recovery of patients of older age group and children. An early resumption of day to day activity along with the other benefit makes it cost effective, in the long run.

In a busy hospital set up with limited beds, Day procedures help in making indoor beds free, for the admission of other patients who need to be hospitalised. Similarly, a separate Day Surgery theatre will reduce the wait list and overload of any regular theatre complex.

Disadvantages of Day Surgery practice, on the other hand, certain points to be kept in mind, which can be considered as: The patient is given instructions with regards to pre-operative preparation, such as, bowel preparation, overnight fasting, anti-hypertension medication, etc., which either they fail to take or take incompletely, resulting in poor bowel preparation or delay in surgery. This is avoided if instructions are written down and repeated verbally to the patient and attendant.

Operative position like Jack-knife, Lithotomy or Supine position, may be found to be uncomfortable as most of the day procedures are performed under Local anaesthesia or Conscious sedation.

Failure of local blocks, due to technical reasons, can lead to substitution of deeper form of anaesthesia, leading in the delay of patient's recovery.

Since the concept of Day surgery is not well known, the idea of being discharged on the same day of surgery, does not go down too well with most of the apprehensive patients, therefore, some of them may refuse to being discharged on the same day.

Lack of facilities at home, in the form of absence of a responsible person to take care of the patient, remote areas which do not have accesses to medical facilities in case of any complication, would also not be fit for day procedure of the major type, and hence is considered as a disadvantage.

Patient selection criteria: which we used for the Day surgery at our centre, helped us in proper safeguard of the patients, to discuss them:

We chose medically fit / stable patients; falling within the recommendation of American Society of Anaesthesia I, II, and III (well controlled).

Our patients were well motivated for Day Surgery and psychologically / mentally stable.

Emphasis on the presence of responsible relation at home to take care of the patient, if needed, contact our team or bring the patient to us in case of any complications, was made.

We recommended for the convenience of the patient's post operative recovery, the facilities of toilet, transport and telephone, at or near the residence of the patient, so as to be able to recoup comfortably.

Absolute contraindication for Day Surgery, when we discussed, we kept in mind that:

Medically unfit; those patients who do not qualify within any of the ASA category.

Patients suffering from highly infectious diseases, which need isolation, are not ideal for recovery at home, if they are to be operated, then, they should be hospitalized.

Patients suffering from severe upper respiratory tract infection, which can lead to bronchospasm, needing medical support, are best treated as indoor cases.

Premature babies are prone to respiratory tract infection and dehydration.

Patients who are in shock due to the disease or trauma and requiring extensive post-operative monitoring, are not ideal candidate for Day Case procedures.

Even high fever, far any reason, needing to undergo surgery would require to be hospitalized for observation.

Lastly, patients having mental retardation, as they are in no position to look after them, hence needs supervision, should not be operated as day case.

Relative contraindications are subject to cases selection and surgeon's discretion is mandatory in such cases, depending on type of surgical or invasive procedure these patients have to undergo Day Surgery, are:

Obesity, as they requirement of anaesthesia will be more and surgery will be technically difficult due to the presence of excessive sub-cutaneous fatty tissue.

Babies younger that 6 months of age are at risk of upper respiratory tract infection and dehydration is high in these cases.

Long distance from home, if patient have to travel long distances to their residences after the procedure, there is a possibility of increasing their morbidity due to the travel.

Procedure: the most important aspect of a Day Surgical procedure is the anaesthesia part. In our practice, the combination of 2% Lignocaine HCL and 0.5% Bupivacaine, have found to give the advantage of immediate and prolonged anaesthesia at the site of surgery. Lignocaine acts almost immediately, but wears off in 20-30 minutes, Bupivacaine, requires 20 minutes to show its effects, but lasts for almost 8 hours. Toxicity of the local anaesthesia is also avoided as the combination gives a diluted strength of 1 %.

One should keep in mind, the toxic dose of Lignocaine HCl with adrenaline is 7 mg/kg, plain lignocaine has a maximum dosage of 3 mg/kg, where as bupivacaine is 2 mg/kg body weight. For example, the usual amount of local anaesthesia required for one sided inguinal hernioplasty is about 30 ml of the combination, which is well within the toxicity dose. Though sensitivity to local anaesthesia used is very rare, as the most commonly used agents are Lignocaine and Bupivacaine, which are amides and less toxic than the ester derivatives (e.g. procaine, prilocaine).(***11***)

Conscious sedation is achieved by a combination of IV drugs, depending on the apprehension and the duration of the cases. At the time of initiating the local block, the patient is sedated with the help of Midazolam (1-2mg), along with Pentazocine (15-30mg) to give analgesia, deeper form of sedation if required is achieved by Ketamine ranging from 10-100mg, bolus dose, as a single drug or in combination. (25mg of ketamine in bolus form, in an adult patient, gives conscious anaelgesia, where as, 100mg is considered to be anaesthetic dose in an adult of 70 kg body weight).

The pain caused by the injection of local anaesthesia is taken care off by this sedation, making the patient virtually painless.

Though the patient is asleep, he can be aroused easily and a repair of hernia can be tested on table.

In cases of appendicectomy, combination of oxygen-nitrous-oxide-halothane was used, in open cases, where spontaneous breathing has been maintained. In patients of Laparoscopic appendicectomy, controlled breathing was achieved by intubation. Muscle relaxant was used in 2 cases only.

The use of IV sedation and anaesthetic drugs make it mandatory to observe the patient for at least 6 to 8 hours, therefore, these cases are preferably conducted in the morning as a first case so as to have enough time for post-operation observation.

Complication:

Reaction to local anaesthesia, though rare is a possibility one should keep in mind. Most commonly seen complications are giddiness, syncope, bradycardia, Nausea, Vomiting; Retention of urine is seen sometimes in male patients; severe pain at home, bleeding, haemorrhage and haematoma, during and after surgery, needing attention.

A home visit by one of our team doctors or a phone call is mandatory for every patient before the centre is closed for the night. However, the involvement of the referring physician of family physician is ideal for the post-operative care of the patient, till they come back to you for follow-up. The reason for the trend towards increasing outpatient and office procedures are clear: lower cost, greater efficiency and improved patient convenience.

Accomplishing the procedures described in this issue safely, swiftly and successfully will serve legions of patients (and surgeons) well.(***12***)

Though less than 2% of our population is covered under medical insurance, there is an increase demand for reimbursement in larger cities. Insurance companies, disbursing claims for surgeries performed as Day Case, have done away with 24 hours admission, a policy decision taken by all the insurance companies together, will be a boost for One Day Surgeries.

Conclusion:

The results of the analysis of Day Case procedures at our centre were found to be: overall complication: 0.45%; Complication in the Major post operative group was: 0.79%. This is very small, considering the nature of complications. With proper cases selection and meticulous patient preparation, following the criteria's for discharge to its last word, will form the guidelines and practice parameters, recommended by us, for the use of cases / procedures which were performed, and listed in the tables, by us, we hope to make Day Care Surgery a worthy modality for the future to come.

Table 1:

Hernia	49
Piles Excision	79
Vericocele	8
Fistula Surg	20
Fissurectomy	9
Orchidopexy	3
Circumscision	13
Excision of Bursa	4
Gynacomastia ex	1
Pilonidal Sinus Ex	8
Perianal / Rectal abscess	30
Parotid cyst ex	1
Cholecystectomy	2
Diabetic toe amputation	6
Lap Ovarian Cyst	6
MTP	32
D & C	127
Ant. Repair	3
Lap TL / Diag Lap	53
Eye Ptosis correction	2
IOL	4
Blephroplasty	1
Burns Dressing	19
Liposuction	5
Hare Lip Correction	1
Skin Grafting	7
Nipple Correction	1
Breast Augumentation	1
TURP	1
Hypospadiasis Correction	1
Epididymal Cyst ex	1
SMR	1
Tympanoplasty	2
Total	**501**

Table 2:

Wound debridment	39
Corn Ex	29
Lipoma	17
I & D	37
L. N. Biopsy	33
Wart ex	13
Scar ex	5
Toenail ex	21
Hydrocele	24
Cystoscopy	15
Sebaceous cyst ex	32
Neurofibroma	9
Cyst ex	11
Carpel tunnel	3
Granuloma	4
Sec. Suturing	8
Papiloma	2
CLW	10
Testicular bx	8
Cold Abscess drainage	8
Breast lump ex	15
Urethral dilatation	8
Nasal Polyp ex	5
Keloid ex	1
Vasectomy	3
Buccal bx	3
Ganglion ex	2
Pleural / Asitic Tapping	4
Forigen body removal	1
Vaginal cyst ex	1
Auroplasty	5
FNAC	1
Cervical Cautry	2
A-V fistula	4
Nevus ex	1
Total	**384**

Table 3:

S. No.	Criteria
1.	Medically fit.
2.	Well Motivated.
3.	Responsible person.
4.	Transport, Toilet, Telephone.

Table 4:

Absolute Contraindications:	Relative Contraindications:
Medically unfit patients.	Obesity.
Suffering from Highly infectious diseases.	Babies younger that 6 months old.
Severe upper respiratory tract infection.	Long distance from home.
Premature babies.	
Requiring extensive post-operative monitoring.	
High fever.	
Mental retardation.	

Reference:

1) Row T. Naresh, Begani M.M., Day Care Surgery: A General Surgeons Prespective; Bombay Hospital Journal, Special Issue on Day Care Medicine and Surgery, April 2003, Vol.45, No.2, 206-210.
2) Castoro Carlo, Bertinato Luigi, Baccaglini, et al, Policy Beief: Day Surgery: Making it Happen, recommendations from: International Association for Ambulatory Surgery, European Observatory on Health Systems and Policies & WHO.
3) Row T. Naresh, Protocols of a Day Care Surgery Centre, Recommendations of The Indian Association of Day Surgery, 2005.
4) Jain Paras, Somani S., Anaesthesia in Day Care Surgery; Bombay Hospital Journal, Special Issue on Day Care Medicine and Surgery, April 2003, Vol.45, No.2, 198-204.
5) Gerald J. Bechamps: Editorial, Operative Techniques in General Surgery: Minor Office and Outpatient Procedures: Sept. 2002, Vol. 4, No. 3.
6) van Heerden Jon A., Farley David R., Preface, Operative Techniques in General Surgery: Minor Office and Outpatient Procedures: Sept. 2002, Vol. 4, No. 3.
7) Stats and Facts: Growth of Ambulatory Surgery centers continues, Managed Care Interface, January 2001, 14:32-33.
8) Bapat R.D., et al, Day Care Surgery in A Public Set Up, Bombay Hospital Journal, April 2001, Vol. 43, No. 2, 249-252.
9) Row T. Naresh, Begani M.M., Nariani M.G., Agarwal N.; Setting up a Day Care Centre, Bombay Hospital Journal, Special Issue on Day Care Medicine and Surgery, April 2003, Vol.45, No.2, 280-283.
10) Ford F, Reed W: The Surgicenter-innovation in the delivery and cost of medical care. Ariz Med, 1969, 26:801.
11) Tuckley J.M.: The Pharmacology of Local Anaesthetic agents, Update in Anaesthesia, 1994; Issue 4, 1-3.
12) van Heerden Jon A., Farley David R., Preface, Operative Techniques in General Surgery: Minor Office and Outpatient Procedures: Sept. 2002, Vol. 4, No. 3.

Information to Contributors

Day Surgery Journal of India, publishes Original Articles, Case Reports, Reviews, New Surgical techniques, Letters to Editor, Research Papers etc., related to Day Surgery, in its broad term, manuscript submitted for publication, are to be accompanied with a letter stating the status of the manuscript, that is, the paper is / not Published or under publication or submitted for publication in any other journal. Articles based on papers presented at conferences should mention as such. Abstract / Papers are accepted subject to Editorial Boards preview. Papers published become the property of the journal under copy right and may be reproduced only with written Permission from the Editor and duly acknowledged.

Manuscripts can be sent as E-mail attachment and followed by a copy by post.

Title page: Title, names of author (s) with initials, Department(s) of origin, designation of the authors and address of author for correspondence and short title.

Abstract: Not exceeding 100-200 words stating the main problem and conclusion with keywords at the end if desired.

Main text with subtitles: Introduction, Material & Methods, Results, Case Reports, Observations, Discussion, Summery, Conclusion.

References: Acknowledgment, Citations in the text are to be super-scribed by number or in parenthesis at top, serially in the order in which they are first mentioned. Author names need not be included. Repeated reference gets the same serial number on top. Authors must verify the references with original documents. References are typed on a separate sheet in the same serial order. Vancouver system is to be followed.

Papers: Name(s) and initials, of all authors, full title of the paper; Journal name abbreviated as in Index Medicus, year, volume number, first and last Page numbers.

Books: Names of authors with initials, title of the chapter in quotes, title of the book, name of "Editors" with initials, edition number and name of publishers, place and year, page numbers first and last. Reference to Official Publications & Reports of Governments, WHO, etc., should indicate the name of the agency, title of publication, volume number and page number if any, country, month, year of publication and place. Reference to citation from Abstracts should be followed by language of original publication, number of the abstract, name of the abstracting journal, month and year of publication.

Reference to manuscripts accepted but not yet published should be indicated by the name of the journal and added "in press" parenthesis. Paper submitted for publication but not yet accepted should not be listed but noted in the text itself as '(unpublished)'.

Figures: Three separate sets of sharp, glossy, black and white photographic prints with the letters and figures sufficiently large to stand reduction to suitable size for reading, when printed, should be submitted well protected against bending in transit. Indicate in pencil on the back of each figure the name of the first author, short title of the paper, figure number and an arrow to indicate 'top' position. Clinical photos scan pictures, X-rays are accepted but their number is restricted to minimum. Colour photos will be printed only on prior payment by author. Legends for figures should be typed separately with the figure number, complete without necessity to refer to text again.

Tables: Tables are separately typed double spaced with the title and legend on its top. Metric system should be followed through out. Statistical analysis should indicate the method followed. Pages of manuscript should be numbered on right top commencing from title page to the last sheet. Approximate position of the Figures and tables may be marked in the margin.

Reprints: Ten reprints will be supplied free to be shared by all authors.