



# RAJIV GANDHI CANCER INSTITUTE & RESEARCH CENTRE

*Newsletter*

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## EDITORIAL

### POWER OF VISUALIZATION

Visualization is the process of creating pictures in your mind of yourself enjoying what you want. When you visualize, you generate powerful thoughts and feelings of having it now. What you visualize, you may materialize. Think of the inventors like Wright Brothers, Thomas Edison and Graham Bell. The only way anything has ever been invented or created is because these persons saw a picture in their mind. They saw it clearly and by holding that picture of the end result in their mind, all the forces of universe brought their invention into this world through them. In present day, new electronic items, computers, latest phones and robotic equipments came into use because people visualized the product, its utility and the product saw the light of the day.

These people have utter faith in the invisible and bring the invention into the visible. They may not have great brains but they think and visualize and make things happen. Visualizing is the great secret of success. Make it a habit to visualize, not just a onetime event.

**Elbert Einstein : "Imagination is everything. It is the preview of life's coming attractions."**

**Here are some suggestions :**

1. Question is how to visualize. Before you go to sleep, think of the events of the day. If any moments or events didn't go the way you wanted, replay them in your mind in a way that appeals you. Recreate those events in your mind exactly as you want, you will emit new signals and frequency next day. You intentionally create new pictures for your future. You may keep changing the pictures. You will perform better and better.

2. Have an "attitude of gratitude". Focus on what you already have that you should be grateful for. Thank God for you have the eyes to read, hands to work and you are healthy. Einstein used to say "Thank you" hundred times a day. He thanked all the scientists who had preceded him for their contributions which had enabled him to learn and achieve even more in his work. Eventually he became one of the greatest Scientist who has ever lived. Each morning before you get out of bed, make it a habit to feel the feelings of gratitude. To say "thank you" and express gratitude is a powerful exercise.
3. Decide what you want. Believe you deserve it and think it is possible for you. Close your eyes every day for few minutes and visualizes having what you want; focus on your activities what you visualized. Expectation is a powerful attractive force. Expect the things you want.

When you want to change your circumstances, you must first change your thinking. Every time you look inside your mind expecting to find only junk mails, guess what, it will be there. Each day you access your mail expecting nothing great. And you get junky mails only. Every day you confirm your thoughts to junk and they are there. Your mind expects junk to be there, so it shows up. Expectation is a powerful attractive force.

**"All that we are is a result of what we have thought," Budha**

**Dr. A. K. Dewan**  
Medical Director

**RGCI & RC Newsletter**



## ROBOTIC SURGERY IN HEAD AND NECK CANCER

### INTRODUCTION

Robotic surgery has already made its mark in several surgical specialties such as cardiology, gynecology and urology. In head and neck surgery a promising role awaits. Robotic surgery offers all the benefits of minimally invasive surgery such as small incisions, minimal tissue damage, less blood loss and eventually short hospital stay with minimal procedure-related morbidity. The currently preferred tools for minimal invasive surgery in head and neck i.e. Lasers have some shortcomings. They have the problem of line of sight, long rigid manipulators, limited view of soft tissue, difficulty in maneuvering dissection around corners and problems with distal dexterity are constraints in their routine use. The robotic assistance overcomes several of these limitations with a promise of wider application.

### HISTORY

The initial experience with surgical robots in head and neck region with experimental surgery in animal studies. The first robotic surgery was performed for excision of a vallecular cyst in 2005. O'Malley & colleagues were the first to perform robotic surgery for tumors of the base tongue in 2006. Later on in 2007, Solares & Strome first used transoral CO2 laser robot-assisted surgery for carcinoma larynx. In the same year, Weinstein & colleagues described robot-assisted supraglottic partial laryngectomy.

### Why Consider Minimally Invasive Approaches?

Minimally invasive approaches have the main advantage of reduction in treatment related morbidity using smaller incisions or eliminating incisions using trans-oral approach especially for oropharyngeal & laryngeal cancers. Technically it allows for improved dexterity and the ability to work in planes of dissection not in line of instrumentation with easy access to difficult areas and confined spaces. The main advantage is improved surgical efficacy & reduced surgical tissue trauma with better functional outcomes. Most patients resume oral feed by two weeks of treatment and airway maintenance by tracheostomy is less frequently required. Moreover most patients have a shorter hospital stay and early return to work for both the patient and his family members. Besides transoral resection of various oral, oropharyngeal, laryngeal lesions, skull base tumors, it carries the ability to assist and perform minimal invasive thyroidectomy and neck dissections.

### Principles of Robotic Surgery

The da Vinci system is most commonly used for surgical procedures in the head and neck region. It comprises of three components:

- (i) Surgeon's console,
- (ii) Patient-side robotic cart, and
- (iii) High-definition 3D vision system.

Articulating surgical instruments are mounted on the robotic arms and are introduced into the oral cavity & pharynx for access to the tumor. This avoids incision in aesthetically important areas (the neck) while still being able to safely & fully remove the tumor with minimum complications, better cosmesis & good functional outcome.

The manipulator unit is equipped with a camera system and up to three manipulating arms, which can be fitted with various instrument tips to operate on the patient. The surgeon controls the unit from the console and an assistant positioned near the manipulator unit helps to either retract or provide oral suction as needed. This setup allows for the manipulation of tissues in small spaces and provides greater access to regions that might not be reachable by conventional techniques. As such, there have been several studies on its feasibility, safety, and outcomes compared with conventional procedures.

### Advantages and Disadvantages of Robotic Surgery

Advantage	Disadvantages
Increased range of motion of surgical instruments	Bulky instrumentation requires considerable space and additional time and personnel for set up
Image guidance and stereotactic orientation	Cost barrier
Instrument stabilization and tremor control	Lack of tactile feed back
Binocular endoscopic vision	
Multi-planner dissection	

### Trans-Oral Robotic Surgery

Endo-laryngeal Surgery has benefited tremendously with the introduction of operating microscope, microscopic instruments & CO2 Laser. Transoral Robotic Laser Surgery has helped to overcome the various limitations of conventional laser surgery. Robotic surgery provides unique advantage by introducing optics and instrumentation with multiple degrees of rotation allowing an access to the entire pharyngeal surface & to specific areas of the endolarynx. It provides a three dimensional camera to be placed close to the tumor with an excellent view of the surgical bed. The lack of tactile sensation is well compensated by superior optics of the imaging system. It is especially indicated for early cases of carcinoma larynx, including vocal cords, hypopharyngeal lesions and selected cases of posterior pharyngeal wall and base tongue lesions. For early stage cancers, preliminary reports have suggested results comparable with standard organ conservation protocols with chemoradiation.

Functional evaluation suggests better preservation of swallowing and airway function without long term dependence on enteral feeding and tracheostomy. Other advantages include less blood loss, shorter hospital stay and limited post-operative complications.

Transoral robotic surgery offers the advantage of a two handed surgery with direct access to surgical site with optical magnification. Compared to chemoradiation it has the advantage of complete pathologic staging of primary tumor & neck with the potential for minimal treatment related morbidity such as no lip split incision compared to conventional open surgery. It provides for faster return of swallowing & oropharyngeal function with less chances of tracheostomy compared to open surgery. The disadvantages include need for specialized instruments for access. In extended resections there may be speech & swallowing



disability or remote chances of massive bleeds and sequelae. Most patients with close or positive margins and N2 disease or extracapsular extension may however need adjuvant Chemo/RT.

#### **Robot Assisted Thyroidectomy**

Minimally invasive thyroid surgery may be done by endoscopic approach by either cervical or a transaxillary access. Although there are no established guidelines, endoscopic thyroidectomy is especially suited for nodules less than 3 cm in size and total ultrasonic estimated thyroid volume of 20 ml. Contraindications include prior history of irradiation to neck, previous neck surgery, previous thyroiditis and aggressive tumors with either extracapsular spread or extensive nodal disease.

The main advantage of robot assisted thyroidectomy is that it eliminates neck incision. Robot assisted thyroidectomy is usually done using remote access to the thyroid gland using a transaxillary approach. A subcutaneous tunnel is made from an axillary incision and robotic hand instruments are then placed into the thyroid region for dissection and thyroidectomy. The disadvantages include longer operative time, need for specialized equipment (Harmonic Scalpel) and requirement for two assistants for Retraction and Video Control.

#### **Robot Assisted Skull Base Surgery**

In the past several years, transnasal endoscopic approaches have been increasingly used for surgical access & treatment of neoplastic & non-neoplastic lesions of the paranasal sinuses and the anterior & central skull base. The increasing popularity of this approach is due to a larger trend towards more "minimally invasive" techniques across all surgical disciplines.

The main advantage of transnasal endoscopic skull base approaches is providing more direct access to anterior & central skull base avoiding craniofacial incisions and extensive bone resections commonly used in open surgical approaches. Also, the wider angle of vision & angled lenses increases the range of the endoscopic visual surgical field compared with the "line of sight" visual field gained by surgical loupes or microscopes. The range of anatomic regions and pathology that can be addressed by endoscopic approaches is impressive, and has largely gained acceptance for the treatment of benign diseases. Its role in malignant disease remains controversial and data is needed to answer these concerns.

The approach to sinus surgery has drastically changed with the advent of robotics and endoscopic sinus surgery. Transnasal robotic surgery provides adequate endoscopic access to the anterior and central skull base.

Robot assisted surgery is best suited for excising well circumscribed benign lesions such as cyst, adenomas & schwannomas. Anterior & middle cranial fossa lesions may be approached using robot assisted transnasal endoscopic approach. Other regions amenable to robotic surgery include nasopharynx (angiofibromas & carcinoma), tumors of clivus, sphenoid, spinomedullary junction, clivus, petrous apex, and pterygopalatine and infratemporal fossa lesions. When compared to conventional open surgery, robot assisted skull base surgery offers the advantage of being minimally invasive with reduced morbidity and provides minimal disease free & overall survival in selected cases with shorter hospital stay and



**TRANS ORAL ROBOTIC SURGERY**

better cosmetic outcomes. Contraindications include extremely vascular tumors, extensive tumors with facial soft tissue involvement or involvement of orbital contents.

#### **OTOLOGY**

Three potential otologic applications of robotic surgery are mastoidectomy/ antrostomy, stapes footplate micropick fenestration & cochlear implant well drilling. However, its role still needs to be explored in more difficult temporal bone dissections. Robotic assistance could also improve identification of superior semicircular canal & internal auditory canal during middle cranial fossa surgery.

#### **Other Applications in Head & Neck Surgery**

Endoscopic robot assisted thymectomy, submandibular gland excision, parotidectomy and neck dissections have also been described. Recent studies have described the role of robot assisted surgery in microvascular free tissue transfer for oral and oropharyngeal defects. The flexibility of the robotic arms allows easier suture placement transorally in areas of decreased visibility and access (e.g. reconstruction of base tongue and lateral pharyngeal wall defects).

#### **CONCLUSION**

Robotic surgery in head and neck cancer is an exciting innovation with the advantage of en-bloc removal of tumor using minimal invasive techniques. Since the procedures are performed through transoral or transantral approaches; a cervical incision is avoided. It helps in preserving function and potentially avoiding the long term sequelae of chemoradiation. Long term oncologic and functional data are however needed to fully validate its use in surgical management of head and neck cancers.

It is important to keep in mind that a minimally invasive approach should not be used as a reason for minimal surgery. The extent of resection should be equal or better than the extent of resection via an open approach and if the surgeon feels that the endoscopic approach will limit the completeness of surgery, an alternative approach should be utilized.

**Dr Ashish Goel**

M.S Surgery; DNB Surgical Oncology  
Consultant Surgical Oncology  
Head Neck Services





## RGCI & RC - Cancer Jagrukta Abhiyan, Talkatora Stadium



RGCI & RC organized a Cancer Jagrukta Abhiyan in association with Alee Society at Talkatora Stadium on 3rd July 2011. The event which was held for the cause of Cancer and AIDS was attended by over 3000 people. Dr. Amitabh Sandilium, MS addressed the huge gathering and spoke on causes and prevention of cancer. He also urged the youth to give up tobacco consumption in all forms.

The Chief Guest for the evening was Justice H N Dhingra who addressed huge gathering and expressed his concern over lack of awareness for Cancer and AIDS.

The Guest of Honour Dr. Ashok Kumar Walia, Health Minister G.N.C.T, Delhi applauded the effort of Rajiv Gandhi Cancer Institute & Research Centre for the cause of cancer.

In recognition of RGCI & RC contribution to the society, the honourable Health Minister presented a memento to the Medical Superintendent, Dr. Amitabh Sandilium.

## RGCI&RC Signs MOU with New Zealand

RGCI&RC signed MOU with Med Tech Health Solutions a New Zealand based company for digitalization of medical records at hotel Maurya Sheraton on 27.06.2011. The signing ceremony was performed by Director Finance RGCI&RC, Mr S Sundaresan and Mr Veenu Ramya, Executive Chairman, Med Tech Health Solutions. The signing ceremony was performed in the presence of New Zealand Prime Minister Mr. John Key and Trade Minister of New Zealand Mr. T M Groser.

Other Members from RGCI present for the MOU signing ceremony were CIO Mr. J P Dwivedi, Head Marketing Mr. Samir Malhotra and Manager MRD Mr. K S Rana.

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## ONCOLOGY CME

RGCI & RC in association with IMA South Delhi Branch organized a CME at India Habitat Centre on 2nd July 2011. Mr Samir Malhotra Head Marketing addressed the Medical Fraternity with a welcome address from our CEO and MD. The speakers for the event were Dr. Gauri Kapoor Director and Head Pediatric Oncology, Dr. Sheh Rawat Senior Consultant Radiation Oncology and Dr. R S Jaggi Consultant Neuro Oncology. The CME was inaugurated by Dr. Anand Gupta President IMA SDB and Dr. Raghav Aggarwal Hon. Secy IMA SDB. The event was graced by Dr. B T C Murthy Director CCRR & N, Department of AYUSH, Ministry of Health and Family Welfare. He spoke on various issues concerning the Health Care Industry & expressed need for a platform for exchange of oncology based information with general practitioners.



MS, Dr. Amitabh Sandilium presented mementos to Guest of Honor and key office bearers of IMA SDB.

To, \_\_\_\_\_

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