Title:
Advances in Surgical Oncology for Organ-Preserving Techniques

Full Name:
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Name of the Institution:
Kidwai Memorial Institute of Oncology, Bengaluru

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
The goal of advances in surgical oncology for organ preservation is to minimize the negative effects of cancer treatments on function and appearance while keeping successful oncological results. These methods are especially pertinent to tumors when conventional methods may result in substantial morbidity, highlighting the necessity of creative surgical treatments.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
A) Enhancing the Adoption of MITs in Oncology by:
1. Training & Education: Arranging hands-on workshops, simulation-based learning to make it challenging, and implementing the mentorship program for the implementer.
2. Technology & Accessibility: AI-assisted imaging, robotics, and cost-effective solutions can make surgery less invasive besides continuous technological improvement that provides access to it.
3. Clinical Validation: Clinical validation of the efficacy of a medicine for a specific ailment might be accomplished by using large-scale trials on the effectiveness of such drugs, and then finally being integrated into treatment guidelines.
4. Patient Awareness: The Patient should access the service on which they receive quick recovery and get fewer complications through the benefits of education free from education at the cost of the time-intervals of slow recovery and suffering complications.
5. Policy & Reimbursement: The policy that is about insurance coverage and government incentives can make the situation under control.
6. Interdisciplinary Collaboration: Cooperation among diverse professionals, such as surgeons, radiologists, and engineers, has a high positive response rate on the implementation of technologies.
7. Data-Driven Optimization: The treatment evolves through AI analytics for personalization

B) Clinical Evidence & Guidelines:
1. Perform various (or many) extensive studies that will demonstrate improvement in survival and therapy recommendations incorporating these findings.
2. Create interdisciplinary tumor boards to ensure a smooth treatment planning dialogue between oncologists and surgeons.
3. Personalized Treatment Methods: Use genetically identified biomarkers and other individual patient data to plan (or design) neoadjuvant treatments of patients according to reactions to the drugs and the normal APA or other regiments.
4. Healthcare Policy and Reimbursement: Provide chances to the government to appreciate the neoadjuvant work and give insurance coverage that will be at less costs and therefore give more chances for people to use it.
5. Training & Awareness: Help surgeons and oncologists get updated on the newest developments in neoadjuvant therapy that are currently in use and the best practices to follow. Involve the patient in trying to make them realize the importance of the neoadjuvant treatment, like having a better operation, and only a very low chance of the disease coming back.

6. Real-World Data & Continuous Monitoring: With AI and with the aid of registries, you can supervise whether the medical aides follow the dictated routines, and you can use the feedback from patients in real life.

C) Tumor boards in multiple medical disciplines:
1. There should be regular meetings of doctors specializing in pathology, radiology, oncology, and surgery for the purpose of concerted decision-making.
2. EHR systems provided AI-driven analytics and centralized data to enable evidence-based treatment planning.
3. Standardized protocols are uniform regulations that guarantee the same treatment approach.
4. Remote case discussions are an example of virtual collaboration that can be conducted through cloud-based systems and telemedicine.
5. Patient-centered approach focuses on patient education and the use of shared decision-making tools.
6. Continuous education can include AI learning modules, case simulations, cross-specialty training, etc.
7. Outcome tracking: It is near-real-time monitoring of procedures by using real-world data for the purpose of more precise patient care.

Full Name:
Arulraj

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Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Neoadjuvant therapy and minimally invasive techniques can work synergistically in oncology, playing a pivotal role in organ and functional preservation while maintaining oncological safety.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
Neoadjuvant treatment has become a standard of care across various cancers, significantly increasing the likelihood of organ preservation in sites such as the breast, esophagus, and rectum. By downstaging tumors, neoadjuvant therapy facilitates less extensive surgeries, contributing to both functional preservation and reduced surgical morbidity. The integration of minimally invasive techniques—such as laparoscopy, thoracoscopy, and robotic surgery—further enhances outcomes by minimizing postoperative complications, accelerating recovery, and improving quality of life. Advancements in neoadjuvant strategies have expanded the feasibility of minimally invasive approaches across a wide spectrum of cancers, enabling procedures like Transoral Robotic Surgery (TORS), Video-Assisted Thoracoscopic Surgery (VATS), laparoscopic pelvic and abdominal resections, and robotic breast surgeries to be performed more safely and effectively.

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Kartik Gajanan Asutkar

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Objective of your solution:(Briefly define the primary outcome of your solution to this challenge):
Primary Outcomes of Advancing Organ-Preserving Surgical Oncology Techniques:
1. Enhanced Adoption of Minimally Invasive Surgery (MIS):
a) Increased utilization of laparoscopic/robotic techniques, reducing postoperative complications (e.g., infections, recovery time).
b) Preservation of organ function (e.g., sphincter-saving rectal surgery) and aesthetic outcomes (e.g., breast-conserving surgery).
2. Standardized Neoadjuvant Therapy Integration:
a) Higher rates of tumor downstaging, enabling less extensive surgeries (e.g., limb-sparing sarcoma resections).
b) Improved survival rates through systemic control of micrometastases pre-surgery.
3. Streamlined Multidisciplinary Collaboration:
a) Consensus-driven treatment plans, balancing oncologic efficacy with quality-of-life priorities.
b) Reduced time-to-treatment initiation via coordinated decision-making (e.g., synchronized chemo-surgery timelines).
Secondary Outcomes:
1. Cost savings from shorter hospital stays (MIS) and optimized resource use.
2. Equity in access to advanced techniques through subsidized platforms/training.
3. Data-driven refinement of protocols via registries tracking long-term outcomes.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
Mechanisms to Improve Adoption of Minimally Invasive Techniques
1. Training & Education:
a) Structured fellowships in laparoscopic/robotic surgery.
b) Simulation-based certification programs (e.g., VR platforms).
2. Guideline Integration:
a) Include minimally invasive surgery (MIS) as preferred in NCCN/ESMO guidelines for eligible cancers (e.g., early-stage colorectal, endometrial).
3. Cost & Access Solutions:
a) Partnerships with industry to subsidize robotic platforms in low-resource settings.
b) Prioritize MIS in hospital procurement policies.
4. Outcome Tracking:
a) National registries (e.g., NCDB) to benchmark MIS success rates and complications.
Integrating Neoadjuvant Therapies as Standard of Care (SOC)
1. Evidence-Based Protocols:
a) Define SOC using tumor-specific trials (e.g., TNT [total neoadjuvant therapy] for rectal cancer).
b) Develop response-adapted surgery guidelines (e.g., breast cancer post-neoadjuvant chemo).
2. Multidisciplinary Consensus:
a) Tumor boards to mandate neoadjuvant eligibility criteria (e.g., borderline resectable pancreatic cancer).
3. Patient & Provider Education:
a) Decision aids explaining benefits (organ preservation, downstaging).
b) Workshops for surgeons on managing post-neoadjuvant surgical challenges.
4. Reimbursement Advocacy:
a) Lobby payers to cover neoadjuvant therapies (e.g., immunotherapy for melanoma).

Multidisciplinary Collaboration Framework
1. Structured Tumor Boards:

a) Weekly meetings with core members: surgeons, medical/radiation oncologists, radiologists, pathologists, and palliative care.
b) Mandatory pre-op case reviews for complex cancers (e.g., sarcomas).
2. Shared Decision-Making Tools:
a) Integrate AI platforms (e.g., Watson Health) to analyze imaging/genomic data during discussions.
b) Use Electronic health records alerts to flag cases needing multidisciplinary input.
3. Role Clarity & Communication:
a) Define responsibilities (e.g., surgeon leads resection planning, oncologist manages systemic therapy).
4. Patient-Centered Inclusion:
a) Involve patients in board discussions via telehealth for preference alignment.

Full Name:
Soumya BM

Name of the Institution:
Manipal Hospital, Bengaluru

State:
Karnataka

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To reduce the morbidity and increase quality of life after oncology surgery

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
1. Advances in organ-preserving surgical oncology emphasize minimally invasive techniques (MIS) to reduce morbidity while maintaining oncologic safety.
2. Adoption can be improved through simulation-based training, mentorship, standardized equipment access, and evidence-based guidelines.
3. Promoting patient awareness and integrating shared decision-making tools also enhances acceptance.
4. Incorporating neoadjuvant therapies as standard of care (SOC) requires robust clinical evidence, biomarker-guided patient selection, and institutional protocols.
5. Multidisciplinary tumor boards and EHR-based clinical prompts can streamline integration, supported by clinician education and insurance policy alignment.
6. Effective multidisciplinary collaboration is essential, driven by regular tumor board meetings, digital collaboration platforms, and standardized decision-making frameworks.
7. Utilizing shared dashboards, virtual platforms, and case templates ensures coordinated care.
8. Nurse navigators and patient engagement tools help maintain continuity and alignment with patient values.
These combined strategies foster high-quality organ-preserving cancer care.

Full Name:
Vishwanath M

Name of the Institution:
Madras Medical College

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
To revolutionize surgical oncology by pioneering organ-preserving techniques that harmonize cutting-edge minimally invasive technologies, neoadjuvant therapy integration, and multidisciplinary collaboration, ensuring superior oncological outcomes while preserving patients' quality of life and dignity.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
In the ever-evolving landscape of surgical oncology, our proposal, Preservare Vita, unveils an elegant trifecta of innovation to redefine cancer care.
1. First, we champion the widespread adoption of minimally invasive techniques—robotic precision and endoscopic finesse—through immersive training ecosystems and patient-centric awareness campaigns. By blending artistry with technology, we empower surgeons to sculpt outcomes that spare both form and function, igniting curiosity about a future where scars tell stories of triumph, not sacrifice.
2. Second, we weave neoadjuvant therapies into the fabric of standard care, guided by molecular compasses. Imagine therapies tailored to each tumor's unique signature, shrinking malignancies with such precision that organs are preserved, and hope is restored. Our blueprint leverages biomarker-driven protocols and updated guidelines to make this vision a reality, sparking intrigue about personalized medicine's untapped potential.
3. Finally, we orchestrate a symphony of multidisciplinary collaboration. Picture tumor boards as vibrant forums where surgeons, oncologists, and radiologists converge, their expertise interwoven through real-time digital platforms and shared decision-making tools.
This collaborative crescendo ensures every patient's journey is a masterpiece of precision and compassion. Preserve Vita is more than a proposal—it's an invitation to reimagine surgical oncology as a beacon of innovation and humanity. By minimizing morbidity and maximizing outcomes, we aim to captivate the national stage, inspiring a generation to ask: what if cancer treatment could preserve not just life, but the essence of living?

Full Name:
Prabhu Pandian

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Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Enhanced adoption of minimally invasive surgical techniques, optimized neoadjuvant therapy integration, and improved multidisciplinary collaboration leading to superior oncological outcomes and enhanced patient quality of life.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
Improving Adoption of Minimally Invasive Techniques
1. AI-Powered Surgical Simulation: Use VR/AR platforms with real-time AI feedback to train surgeons in complex organ-sparing procedures (e.g., robotic partial nephrectomy, transoral laser microsurgery).
2. "Centers of Excellence" Certification: Hospitals achieving high success rates in minimally invasive oncology surgeries receive accreditation, incentivizing adoption through reimbursement incentives.

3. Patient-Driven Demand: Deploy AI chatbots to educate patients on minimally invasive options, increasing pressure on providers to offer these techniques.
4. Integrating neoadjuvant therapies (NAT) as standard of care (SOC) necessitates robust clinical trials comparing NAT plus surgery versus surgery alone, clearly demonstrating superior oncological and functional outcomes.
5. Development of predictive biomarkers identifying patients most likely to benefit from NAT is essential for personalized treatment plans.
6. Real-world data registries tracking long-term outcomes, including quality of life and recurrence rates are necessary to monitor the effectiveness of NAT integration.
7. Optimal surgical decision-making requires a robust, multidisciplinary team. This demands standardized, evidence-based treatment guidelines accessible through a centralized platform. Regular multidisciplinary tumor boards utilizing digital platforms with integrated imaging and data visualization tools will allow efficient case review and consensus building.
AI-driven decision support systems capable of analyzing individual patient data, including genomic information, to predict treatment response and potential complications should augment the clinical decision-making process. AI analyzes past multidisciplinary decisions and outcomes, suggesting optimal strategies (e.g., "For T2 laryngeal cancer, 78% of high-volume centers recommend chemoradiation over surgery").

Full Name:
Ananya Ghosh

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Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
1. To enhance minimally invasive procedures, develop targeted training programs, provide financial assistance for cutting-edge equipment, and educate patients on their benefits.
2. Leverage AI-based decision-making to pinpoint cases appropriate for minimally invasive techniques.
3. Make neoadjuvant therapies a standard practice by employing evidence-based guidelines, multidisciplinary assessments, and real-world tracking.
4. Offer education and support for oncologists and surgeons.
5. Create a framework for multidisciplinary collaboration that includes tumor board meetings, integrated decision-making platforms, virtual teamwork, and a focus on patient-centered care.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
Strategies to Enhance the Adoption of Minimally Invasive Techniques
1. Training and Skill Development: Create specialized training programs for surgeons that focus on robotic-assisted surgery, laparoscopic methods, and advanced imaging technologies.
2. Technology Accessibility: Offer financial support or incentives for hospitals to obtain state-of-the-art equipment, such as robotic systems and intraoperative imaging devices.
3. Patient Awareness Campaigns: Inform patients about the advantages of minimally invasive techniques, including shorter recovery times and reduced complication rates.
4. Data-Driven Decision Making: Employ AI-driven analytics to pinpoint cases that are appropriate for minimally invasive methods, ensuring accuracy and improved results.

Incorporation of Neoadjuvant Therapies as Standard of Care (SOC) Evidence-Based Protocols:
1. Formulate standardized guidelines grounded in clinical trials that validate the effectiveness of neoadjuvant therapies in enhancing surgical outcomes.
2. Multidisciplinary Evaluation: Utilize tumor boards to evaluate patient suitability for neoadjuvant therapies, ensuring tailored treatment strategies.
3. Monitoring and Feedback: Establish systems to monitor patient reactions to neoadjuvant therapies, adjusting protocols based on real-world evidence.
4. Education and Advocacy: Provide training for oncologists and surgeons on the latest developments in neoadjuvant therapies, including immunotherapy and targeted treatments.

Framework for Multidisciplinary Collaboration in Surgical Oncology
1. Tumor Boards: Regularly hold tumor board meetings that include surgical oncologists, medical oncologists, radiologists, pathologists, and other specialists to review complex cases.
2. Integrated Decision Platforms: Implement digital tools for the real-time exchange of patient information, imaging results, and treatment strategies among team members.
3. Virtual Collaboration: Utilize telemedicine and online meetings to maintain ongoing multidisciplinary discussions, particularly in settings with limited resources.
4. Patient-Centered Approach: Factor in patient preferences and psychosocial aspects in the decision-making process to ensure comprehensive care.

Full Name:
Baghath Singh L A

Name of the Institution:
Madras Medical College

State:
Tamil Nadu

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
Transformative power of neoadjuvant chemotherapy and incorporating minimal access surgery for better patient care and cure.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
MAS, encompassing laparoscopic, thoracoscopic, and robotic techniques, offers reduced morbidity, expedited recovery, and shorter hospitalizations compared to open surgery. Its broader adoption is hindered by technical complexity and resource constraints. Enhancing surgical training through simulation-based curricula and mentorship is paramount to build expertise in procedures like laparoscopic colectomy or robotic pancreatectomy. Institutional investment in advanced instrumentation, such as high-definition endoscopes and robotic platforms, is critical to enable precise oncologic resection. Evidence from trials, including those for colorectal and lung cancers, confirms MAS's non-inferiority to open surgery, with benefits like diminished postoperative complications. Application in early-stage malignancies or post-neoadjuvant down staged tumors optimizes outcomes, as seen in thoracoscopic lobectomy, which accelerates adjuvant therapy initiation. Streamlined referral to high-volume centers can further democratize access. Neoadjuvant Therapy's Transformative Role Neoadjuvant therapy—chemotherapy, radiotherapy, or immunotherapy—downsizes tumors, rendering extensive resections amenable to MAS. In rectal cancer, chemoradiation facilitates laparoscopic mesorectal excision over open exenteration. For pancreatic adenocarcinoma, regimens like FOLFIRINOX enable minimally invasive pancreatectomy by reducing vascular involvement. Immunotherapy, such as anti-PD-1 agents, enhances respectability in selecting cancers, supporting procedures like laparoscopic mastectomy. Precise staging via PET-CT and biomarkers guides therapy,

improving R0 resection rates. Optimal surgical timing, typically 6-12 weeks post-therapy, balances response and tissue recovery. Multidisciplinary Tumor Boards MDTs, integrating surgical, medical, and radiologic expertise, ensures cohesive planning. They assess tumor response, confirm MAS feasibility, and coordinate neoadjuvant and surgical strategies, particularly in complex cases like oligometastatic disease, enhancing precision and outcomes.

Full Name:
Pankaj Deep Rana

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Metro Hospital and Cancer Institute

State:
Uttar Pradesh

Objective of your solution: (Briefly define the primary outcome of your solution to this challenge):
The landscape of surgical oncology is rapidly evolving toward techniques that prioritize both oncological safety and organ preservation. By advancing minimally invasive techniques, integrating neoadjuvant therapies into standard care, and fostering multidisciplinary collaboration, clinicians can significantly reduce morbidity and enhance the quality of life for cancer patients. These strategies require a concerted effort in training, infrastructure development, protocol standardization, and teamwork. With sustained commitment and innovation, organ-preserving oncologic surgery can become the new gold standard in cancer care.

Describe your solution / proposal: Provide a detailed account of your solution/ proposal to this challenge. You could type your solution/ proposal here. (Disclaimer: Solution/proposal should not exceed more than 300 words.):
Advances in Surgical Oncology for Organ-Preserving Techniques
1. Mechanisms to Improve Adoption of Minimally Invasive Techniques (MITs)
a. Structured Training & Skill Development
Establish fellowship and certification programs in minimally invasive and robotic surgery.
Simulation labs using virtual reality for laparoscopic/robotic practice.
b. Institutional & Infrastructure Support
Investment in surgical infrastructure like robotic systems and advanced endoscopy suites.
Develop standard operating protocols (SOPs) to streamline MITs into surgical workflows.
c. Patient Awareness & Shared Decision-Making
Educate patients about benefits of MITs (e.g., faster recovery, reduced pain, organ preservation).
Develop decision aids to support informed choices.
2. Integration of Neoadjuvant Therapies as Standard of Care (SOC)
a. Risk Stratification and Patient Selection
Use biomarkers, imaging (MRI, PET-CT), and genomic profiling
Establish standardized inclusion criteria for neoadjuvant therapy
b. Protocol Development & Institutional Adoption
Develop and disseminate consensus-based, tumor-specific protocols
Build clinical pathways in electronic medical records for seamless referrals.
Education & Awareness for Oncologists and Surgeons
Regular tumor board discussions to reinforce the role of neoadjuvant therapies.
CME programs focused on neoadjuvant indications and response assessment.
d. Response Assessment & Adaptive Management
Standardize radiologic and pathologic response criteria.
Utilize adaptive strategies, such as conversion surgery
3. Mechanism for Multidisciplinary Collaboration in Surgical Oncology Decision-Making

a. Tumor Boards & Joint Case Conferences
Conduct weekly multidisciplinary tumor boards involving surgical oncologists, medical oncologists, radiation oncologists, pathologists, and radiologists.
Use structured templates to guide case discussions
b. Integrated Care Teams
Form disease-specific teams with shared outcome responsibilities.
Designate care coordinators or nurse navigators to manage inter-departmental communications.
Shared Digital Platforms
Use interoperable digital platforms (e.g., MDT software) for real-time data sharing.
Implement decision-support algorithms embedded in EMRs.
d. Cross-Training and Interdisciplinary Education
Organize joint educational rounds, tumor board fellowships
Encourage collaborative publications and research projects to foster a culture of partnership.