



| UPPER GASTROINTESTINAL SURGERY | | | | |
|--------------------------------|---|-----------------------|----------|------------------------------------|
| NO | INDICATOR | DIMENSION | STANDARD | SECONDARY DATA REPORTING FREQUENCY |
| 1 | Percentage of patients with clear surgical margin post resection of Gastric Tumour performed with curative intent | Effectiveness | ≥ 90% | 3 Monthly |
| 2 | Incidence rate of oesophageal anastomotic leak requiring surgical intervention | Safety | ≤ 10% | 6 Monthly |
| 3 | Percentage of patients with Gastric Adenocarcinoma who underwent curative surgical resection (RO) where ≥ 15 lymph nodes are resected and pathologically examined | Effectiveness | ≥ 90% | 6 Monthly |
| 4 | Percentage of patients with Oesophageal or Gastric Tumour operated within (≤) 2 weeks after achieving pre-operative optimization | Customer centeredness | ≥ 80% | 6 Monthly |



| Discipline | : Upper Gastrointestinal Surgery | | | | | | | | | |
|---|--|--|-------------|--------------|--------------|-------------------------------------|--|----------------|-------------------------------------|--|
| Indicator 1 | : Percentage of patients with clear surgical margin post resection of Gastric Tumour performed with curative intent | | | | | | | | | |
| Dimension of Quality | : Effectiveness | | | | | | | | | |
| Rationale | : <ol style="list-style-type: none"> 1. Tumour involvement of surgical resection margins is a negative prognostic factor. 2. Curative cancer surgery (RO) should aim to ensure complete excision of the tumour, as this affects the prognosis and long-term patient outcome. | | | | | | | | | |
| Definition of Terms | : Clear surgical margins: Complete excision of the tumour with clear margins. Margins include proximal and distal margins. HPE of tissue needs to be reviewed within 1 month by the operating team to confirm on clear surgical margins. | | | | | | | | | |
| Criteria | : Inclusion: <ol style="list-style-type: none"> 1. All Gastric Tumour surgery performed with curative intent. 2. Inclusive of cases post neo-adjuvant therapy. Exclusion: <ol style="list-style-type: none"> 1. All palliative Gastric Tumour surgery. | | | | | | | | | |
| Type of indicator | : Rate-based outcome indicator | | | | | | | | | |
| Numerator | : Number of patients with clear surgical margin post resection of Gastric Tumour performed with curative intent | | | | | | | | | |
| Denominator | : Total number of patients who underwent resection of Gastric Tumour with curative intent | | | | | | | | | |
| Formula | : $\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$ | | | | | | | | | |
| Standard | : $\geq 90\%$ | | | | | | | | | |
| Data Collection & Verification | : <ol style="list-style-type: none"> 1. Where: Data will be collected in wards that cater for the above condition/ clinic/ OT. 2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. 3. How to collect: Data is suggested to be collected from patient's case notes/ OT list/ OT record book/ HPE results. 4. How frequent: 3 monthly data collection within department. Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. 5. Who should verify: <table border="1"> <thead> <tr> <th></th> <th>Prepared by</th> <th>Validated by</th> </tr> </thead> <tbody> <tr> <td>Primary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </tbody> </table> <p>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</p> | | Prepared by | Validated by | Primary Data | Officer/ Paramedic/ Nurse in-charge | Supervisor of the person who prepared the data | Secondary Data | Officer/ Paramedic/ Nurse in-charge | Head of Department/ Specialist in-charge |
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| Remarks | : Data collection to be done by 1 month retrospective cohort of data. For April 2021, it will be patients operated in March 2021; to allow time for reviewing HPE results to verify margin clearance. | | | | | | | | | |



| Discipline | : Upper Gastrointestinal Surgery | | | | | | | | | |
|---|---|--|-------------|--------------|--------------|-------------------------------------|--|----------------|-------------------------------------|--|
| Indicator 2 | : Incidence rate of oesophageal anastomotic leak requiring surgical intervention | | | | | | | | | |
| Dimension of Quality | : Safety | | | | | | | | | |
| Rationale | : <ol style="list-style-type: none"> 1. Preoperative preparation for any major oesophageal surgery is important for a positive clinical outcome. 2. Improvement in preoperative general condition, stabilization of co-morbidities and proper patient selection are pertinent to improved clinical outcome. | | | | | | | | | |
| Definition of Terms | : Oesophageal anastomosis leak: It is a leak that requires <u>surgical intervention/ reoperation</u> within 30 days. | | | | | | | | | |
| Criteria | : <p>Inclusion:</p> <ol style="list-style-type: none"> 1. All patients who undergo elective oesophago-gastric surgery for benign or malignant disease either conventional or thoracoscopic assisted surgery (inclusive of 2 or 3 stage oesophagectomy and any bowel interposition to the remnant to the oesophagus). <p>Exclusion:</p> <ol style="list-style-type: none"> 1. Emergency oesophago-gastric surgery. | | | | | | | | | |
| Type of indicator | : Rate-based outcome indicator | | | | | | | | | |
| Numerator | : Number of patients with oesophageal anastomotic leak requiring surgical intervention after undergoing elective oesophago-gastric surgery | | | | | | | | | |
| Denominator | : Total number of patients underwent elective oesophago-gastric surgery | | | | | | | | | |
| Formula | : $\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$ | | | | | | | | | |
| Standard | : $\leq 10\%$ | | | | | | | | | |
| Data Collection & Verification | : <ol style="list-style-type: none"> 1. Where: Data will be collected in wards that cater for the above condition/ clinic/ OT. 2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. 3. How to collect: Data is suggested to be collected from patient's case notes/ OT list/ OT record book. 4. How frequent: Monthly data collection within department. Validated summarised secondary data to be sent 6 monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. 5. Who should verify: <table border="1"> <thead> <tr> <th></th> <th>Prepared by</th> <th>Validated by</th> </tr> </thead> <tbody> <tr> <td>Primary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </tbody> </table> <p>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</p> | | Prepared by | Validated by | Primary Data | Officer/ Paramedic/ Nurse in-charge | Supervisor of the person who prepared the data | Secondary Data | Officer/ Paramedic/ Nurse in-charge | Head of Department/ Specialist in-charge |
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| Remarks | : Data collection to be done by 1 month retrospective cohort of data. For April 2021, it will be patients who underwent elective oesophago-gastric surgery in March 2021; in view of one month period where patient can present with oesophageal anastomotic leak. | | | | | | | | | |



| Discipline | : Upper Gastrointestinal Surgery | | | | | | | | | |
|---|--|--|-------------|--------------|--------------|-------------------------------------|--|----------------|-------------------------------------|--|
| Indicator 3 | : Percentage of patients with Gastric Adenocarcinoma who underwent curative surgical resection (RO) where ≥ 15 lymph nodes are resected and pathologically examined | | | | | | | | | |
| Dimension of Quality | : Effectiveness | | | | | | | | | |
| Rationale | : Maximizing the number of lymph nodes resected and analysed enables reliable staging, which influences treatment decision making. | | | | | | | | | |
| Definition of Terms | : Curative surgical resection (RO) : Curative gastrectomy should be done with intention of harvesting both tier one and tier two lymph nodes for adequate clearance and appropriate histological staging of degree of lymph node metastases. | | | | | | | | | |
| Criteria | : <p>Inclusion:</p> <ol style="list-style-type: none"> All patients who undergo gastric surgery with curative intent (RO) for Gastric Adenocarcinoma. <p>Exclusion:</p> <ol style="list-style-type: none"> Palliative gastrectomy. Neo-adjuvant chemo/ radiotherapy provided (will affect yield). | | | | | | | | | |
| Type of indicator | : Rate-based output indicator | | | | | | | | | |
| Numerator | : Number of patients with Gastric Adenocarcinoma who undergo curative surgical resection (RO) where ≥ 15 lymph nodes are resected and pathologically examined | | | | | | | | | |
| Denominator | : Total number of patients with Gastric Adenocarcinoma who underwent curative surgical resection (RO) | | | | | | | | | |
| Formula | : $\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$ | | | | | | | | | |
| Standard | : $\geq 90\%$ | | | | | | | | | |
| Data Collection & Verification | : <ol style="list-style-type: none"> Where: Data will be collected in wards that cater for the above condition/ clinic/ OT. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. How to collect: Data is suggested to be collected from patient's case notes/ OT notes/ OT list/ OT record book. How frequent: 3 monthly data collection within department. Validated summarised secondary data to be sent 6 monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. Who should verify: <table border="1"> <thead> <tr> <th></th> <th>Prepared by</th> <th>Validated by</th> </tr> </thead> <tbody> <tr> <td>Primary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </tbody> </table> <p>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</p> | | Prepared by | Validated by | Primary Data | Officer/ Paramedic/ Nurse in-charge | Supervisor of the person who prepared the data | Secondary Data | Officer/ Paramedic/ Nurse in-charge | Head of Department/ Specialist in-charge |
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| Remarks | : | | | | | | | | | |

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| Discipline | : Upper Gastrointestinal Surgery |
| Indicator 4 | : Percentage of patients with Oesophageal or Gastric Tumour operated within |



| (≤) 2 weeks after achieving pre-operative optimization | | | | | | | | | | |
|---|--|--|-------------|--------------|--------------|-------------------------------------|--|----------------|-------------------------------------|--|
| Dimension of Quality | : Customer centeredness | | | | | | | | | |
| Rationale | : <ol style="list-style-type: none"> 1. Surgical resection is the only means of cure for patients with Oesophageal and Gastric Cancer. 2. Time to surgery is important to avoid unnecessary delays which would result in tumour progression and poor outcomes. | | | | | | | | | |
| Definition of Terms | : <p>Pre-operative optimization: It involves a multi-disciplinary approach where patient's comorbidities are optimized, nutritional issues addressed, and pre-operative neo-adjuvant therapy if deemed necessary by the oncologist are completed. The patient is then considered 'optimized' and should be operated within 2 weeks.</p> <p>2 weeks: 14 days (irrespective working or non-working days).</p> | | | | | | | | | |
| Criteria | : <p>Inclusion:</p> <ol style="list-style-type: none"> 1. All patients who are optimised for curative surgery. <p>Exclusion:</p> <ol style="list-style-type: none"> 1. All patients who are deemed incurable/ palliative. 2. Patients who defaulted. 3. Patients who request to delay the given surgery date that was within 2 weeks. | | | | | | | | | |
| Type of indicator | : Rate-based output indicator | | | | | | | | | |
| Numerator | : Number of patients with Oesophageal or Gastric Tumour who are operated within (≤) 2 weeks after pre-operative optimization | | | | | | | | | |
| Denominator | : Total number of patients with Oesophageal or Gastric Tumour who are operated after pre-operative optimization | | | | | | | | | |
| Formula | : $\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$ | | | | | | | | | |
| Standard | : ≥ 80% | | | | | | | | | |
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