No.NHMHP-NCD02016/1/2019-NCD-1596
National Health Mission
Himachal Pradesh

To

1. All the Chief Medical Officer, Himahchal Pradesh
2. All the Principals, Government Medical Colleges Himachal Pradesh
3. All the Medical Superintendents, ZH, RH, CH Himachal Pradesh

MISSION DIRECTOR (NHM) 07 JUL 2025 Kasumpti Shimla-9 H.P

Subject: Dissemination of Standard Treatment Workflows (STWs) on Cancer (Breast, Lungs, oral and Lip) developed by ICMR

Madam/ Sir,

On the subject cited above, please find attached herewith the Standard Treatment Workflows (STWs) on Cancer (Breast, Lungs, oral and Lip) developed by ICMR for guidance. You can also access the same along with other STWs for different relevant topics at https://www.icmr.gov.in/standard-treatment-workflows-stws.

MISSION DIRECTOR (NHM) 07 JUL 2025 Kasumpti Shimla-9 H.P

Yours faithfully,

Signed by Gopal Beri
Date: 05-07-2025 15:49:09
Deputy Mission Director
National Health Mission

Endst. No. As above dated Shimla-9. The
Copy for information to:

1. The Secretary (Health) GoHP, Shimla-2.
2. The Director Health Services, Shimla-9.
3. The Director Medical Education and Reaserch, Shimla-9.

-s/d-
Deputy Mission Director
National Health Mission

July/ 2020

Department of Health Research
Ministry of Health and Family Welfare, Government of India

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Standard Treatment Workflow (STW)

LUNG CANCER

ICD-10-C34.90

Evaluation and management by multidisciplinary team (MDT) of oncology experts

PRESENTATION

- Cough
- Chest pain
- Hemoptysis
- Hoarseness
- Breathlessness
- Non resolving pneumonia
- Mass lesion
- Symptoms persist even after treating pneumonia

IMPORTANT ASSESSMENT PARAMETERS

- Pulmonary function
- Age and comorbidities
- Performance status

Clinical examination:

- Palpable lymph nodes
- Chest wall tenderness
- Skeletal tenderness
- Pleural effusion

INITIAL EVALUATION

- CXR
- Sputum cytology
- Pulmonary reserve:
  - Effort tolerance
  - Walk test
  - Pulmonary function tests (PFT)

LIMITED DISEASE

- CECT thorax and upper abdomen
- Obtain tissue for diagnosis percutaneously by image guidance or by bronchoscopy

DIAGNOSTIC CONFIRMATON

ADVANCED DISEASE

- Pleural fluid cytology
- Pleural biopsy (image guidance if available)
- Cervical lymph node aspiration cytology / biopsy

All lung shadows are not tuberculosis ! Obtain diagnostic investigations before starting empirical ATT !

PATHOLOGY ASSESSMENT

Biopsy/ cell block/ smear

- **Histopathology**
  adenocarcinoma, squamous carcinoma, poorly differentiated carcinoma, small cell carcinoma
- **Immunohistochemistry**
  TTF 1, p40, synaptophysin/ chromogranin
- **Preserve tissue for molecular analysis**
  Molecular tests for adenocarcinoma: EGFR, ALK, ROS-1

SMALL CELL LUNG CARCINOMA

Do CECT thorax and abdomen

- **Non metastatic disease** T1-4, N0-3, M0
  - Metastatic work up: PET CT & MRI brain
  - Consider surgery for T1-2, N0
  - Concurrent CT + RT
- **Metastatic disease** Any T, any N, M1
  - Prophylactic cranial irradiation
  - Symptomatic & supportive care
  - Palliative chemotherapy carboplatin + etoposide

NON SMALL CELL LUNG CARCINOMA

Do CECT thorax and abdomen

- **Non metastatic disease:** T1-4, N0-3
  - Metastatic work up: PET CT and MRI brain
- **Metastatic disease:** Any T, any N, M1
  - Symptomatic & supportive care
  - Refer to oncology centre
  - Palliative chemotherapy (platinum doublet in fit patients, single agent chemotherapy for PS 2)
  - Oral TKI if target mutation detected
  - Immunotherapy may be an option in some patients

MANAGEMENT OF NSCLC

METASTATIC WORKUP* PET-CT SCAN AND MRI BRAIN

Early localized : T1-3, N0-2

EBUS/ EUS ± mediastinoscopy

<N2

N2

N3

Lung resection- lobectomy with SMLND

If operated without NACT Stage II and III A, T>4 cm:
- Adjuvant RT for positive cut margins & pN_2
- Adjuvant chemotherapy
- Consider Osimertitinib if EGFR mutation+

Oral TKI

Unfit or patient refuses surgery

SBRT/ RFA T1-2, N0-2

Concurrent CT+ RT

NACT

Locoregionally advanced : T4, N3

Metastatic disease. any T, any N, M1

Brain/ symptomatic bone metastases

Pallative radiation; Bisphosphonates for bone metastases

Other visceral metastases

Histology

Non- Squamous

EGFR/ ALK testing/ ROS-1/ NGS Platform

EGFR +ve

ALK +ve/ ROS-1

EGFR/ ALK -ve/ ROS-1

Oral TKI

Squamous carcinoma

Driver mutation test

Mutation -ve

Platinum doublet chemotherapy or chemoimmunotherapy

Mutation +ve

Oral TKI or platinum doublet chemotherapy

Platinum doublet chemotherapy or chemoimmunotherapy

AVAILABLE TREATMENT OPTIONS

- Chemotherapy doublet:
  - Carboplatin or cisplatin with pemetrexed or paclitaxel or gemcitabine or etoposide
- EGFR mutation positive: gefitinib, afatinib, osimertinib, erlotinib, dacomitinib
- Immune checkpoint inhibitors: nivolumab, atezolizumab, pembrolizumab, ipilimumab

PALLIATIVE CARE

- Radiotherapy
- Pain management
  - Opioids: morphine, tramadol, oxycodone
  - Paracetamol, nonsteroidal anti-inflammatory drugs
- Cough suppressants
- Treatment of chronic obstructive pulmonary disease
- Treatment of anemia, anorexia, electrolyte abnormalities

ABBREVIATIONS

ALK: Anaplastic lymphoma kinase
ATT: Anti tubercular therapy
CECT: Contrast-enhanced computed tomography
COPD: Chronic obstructive pulmonary disease
CT: Computed tomography
CXR: Chest X Ray
EBUS: Endobronchial ultrasound
EGFR: Epidermal growth factor receptor
NACT: Neoadjuvant chemotherapy
NGS: Next generation sequencing
NSCLC: Non-small cell lung cancer
PET CT: Positron emission tomography
PFT: Pulmonary function test
pN2: Pathological node
RFA: Radiofrequency ablation
ROS: Ros proto-oncogene 1
RT: Radiotherapy
SBRT: Stereotactic body radiotherapy
SMLND: Systematic lymph node dissection
T, N, M: Tumour (T), Nodes (N), and Metastases (M)
TKI: Tyrosine kinase inhibitors

☛ KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES.

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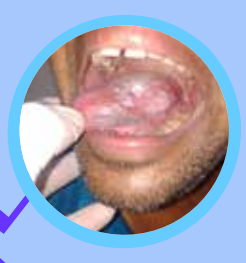
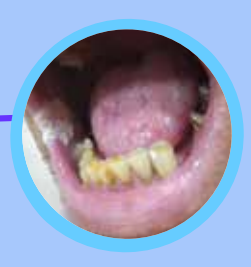
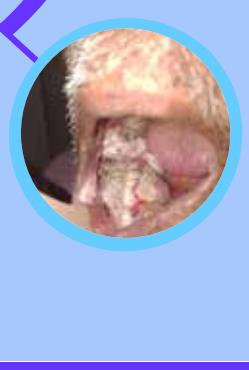
Standard Treatment Workflow (STW)

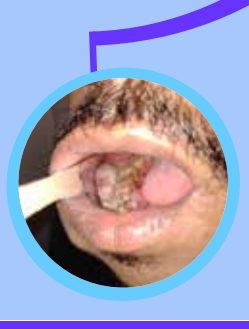
LIP AND ORAL CANCER

ICD-10-C 06.9









- **Tobacco**
- **Alcohol**
- **Areca nut**
- **Sharp tooth**
- **Ill-fitting dentures**

Non healing ulcer/ sore in the mouth especially in a tobacco chewer or smoker

Neck mass

Difficulty in opening mouth

Difficulty in protrusion of tongue

Pain referred to ear

Oral premalignant disorders (OPMD): leukoplakia/ erythroplakia/sub mucous fibrosis, lichen planus

Screening can detect OPMD and invasive cancer early and improve outcome. Treatment of oral cancer is ideally delivered by a multidisciplinary team(MDT)

EVALUATION

- Clinical examination, +/- examination under anaesthesia (EUA), assess pain, nutritional status, & oro-dental hygiene
- USG neck / CT scan head & neck
- Evaluate upper aerodigestive tract for second primary
- Biopsy from primary site, FNAC from neck node
- CBC, LFT, RFT, blood sugar, chest X-ray, ECG
- Tobacco cessation for patient and care givers
- Pure tone audiometry (PTA)
- Speech and swallowing assessment
- Define clinical and radiological staging, goals of treatment

TREATMENT

T1 T2, N0 CANCER

OPTIONS WITH CURATIVE INTENT

Initial surgery **preferred** (wide excision with 1 cm margins & supra-omohyoid neck dissection (Level I – III) with reconstruction
OR
Radical radiation therapy

T3 T4A, N0 N1 N2

OPTIONS WITH CURATIVE INTENT

Initial surgery: wide excision with 1 cm margins + comprehensive neck dissection and reconstruction
OR
Chemoradiation
OR
Neo-adjuvant CT followed by surgery

T4B N3 (TONGUE AND BUCCAL CANCERS WITH SKULL BASE/ INTERNAL CAROTID ARTERY INVOLVEMENT

AIM OF TREATMENT IS PALLIATION

- Palliative chemotherapy
- RT
- Immunotherapy
- Best supportive care

INDICATIONS FOR ADJUVANT RT

Close margin, positive node(s), or presence of any two of following: LVI, PNI, high grade

INDICATIONS FOR ADJUVANT CT-RT:

Metastatic nodes with extracapsular extension, involved margins

THE DRUG OF CHOICE FOR CONCURRENT CHEMOTHERAPY IS CISPLATIN

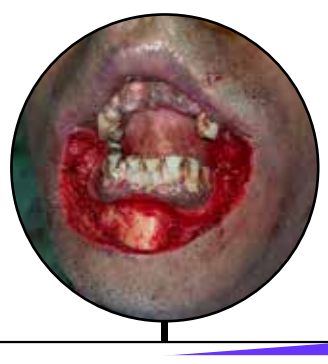
Adjuvant radiation

The minimum post-operative radiation dose is 60 Gy/ 6 weeks/ 30# or equivalent to the primary and nodal areas using conventional treatment planning, 3DCRT or IMRT

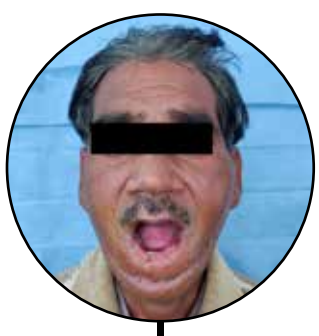
Radical radiation

66-70 Gy is delivered using conventional planning / 3DCRT/IMRT through a telecobalt machine or a LINAC at 1.8 to 2 Gy per fraction over 7-8 weeks (or a biologically equivalent dose) with adequate margins all around the lesion and including level I, II and III nodes

Large SCC lower Lip



Intraoperative image following tumor excision



Postoperative results following reconstruction

FOLLOW UP

Follow up: 3 monthly for the first 3 years, 6 monthly for years 4 & 5 and annually thereafter with clinical examination at every visit, evaluation of symptoms as they present and endoscopy of the upper aerodigestive tract annually

To identify recurrences and second primary cancers

Treatment of common side effects - xerostomia, speech and swallowing issues, nutrition and physical rehabilitation, dental care should be looked after by the members of multidisciplinary team

Emphasize tobacco cessation for patients

- Set a quit date, tell your family
- Remove tobacco / cigarettes from your home, car, and work

- **Tobacco withdrawal symptoms:**
  - Trouble sleeping
  - Feeling irritable, anxious, or restless
  - Getting frustrated or angry
  - Having trouble thinking clearly
- **Counsellor's help is available to deal with the cravings and triggers**
- **Can combine nicotine replacement with or ± bupropion**

ABBREVIATIONS

CBC: Complete blood count
CT: Chemotherapy
EUA: Examination under anaesthesia
FNAC: Fine needle aspiration cytology
IMRT: Intensity-modulated radiation therapy
LFT: Liver function tests
LVI: Lymphovascular invasion
MDT: Multidisciplinary team
OPMD: Oculopharyngeal muscular dystrophy
PNI: Perineural invasion
PTA: Pure tone audiometry
RFT: Renal function tests
RT: Radiotherapy
USG: Ultrasound sonography test

PREVENT ORAL CANCER BY TOBACCO CONTROL

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July/ 2020

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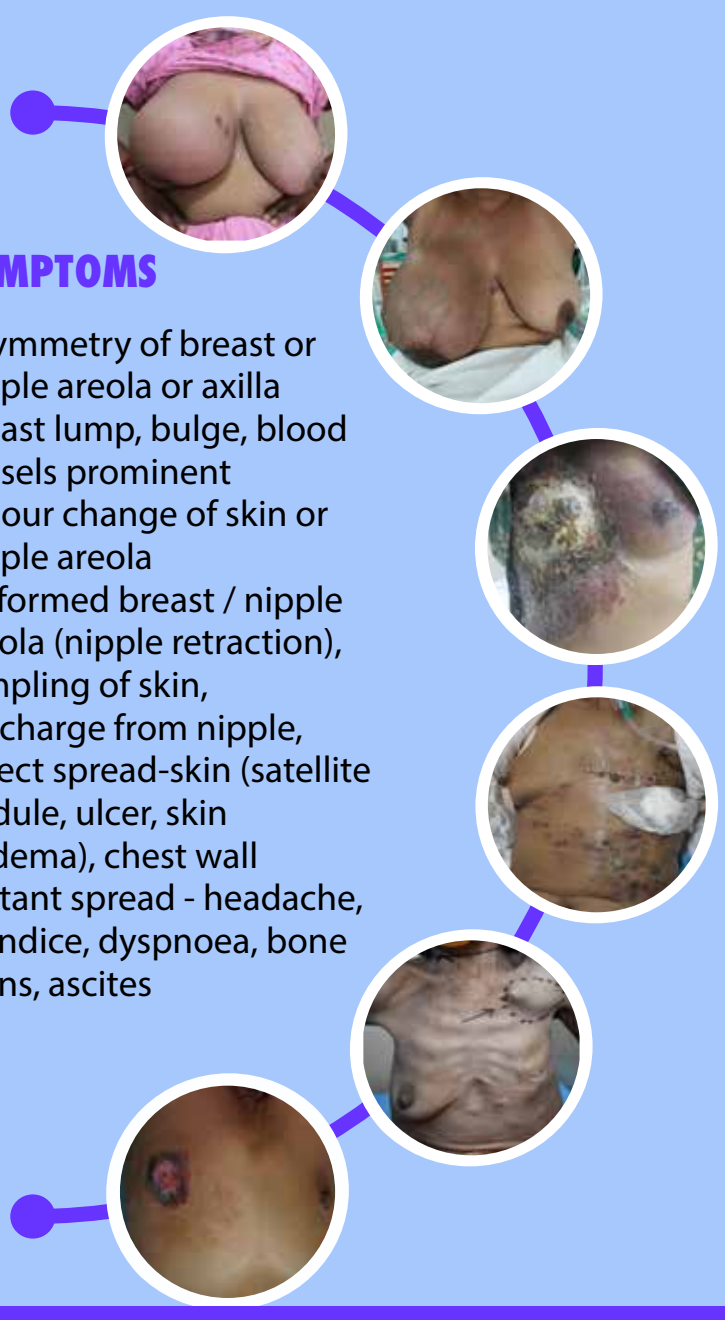
Standard Treatment Workflow (STW) for
BREAST CANCER
ICD-10-C 50



SYMPTOMS

A. **A**symmetry of breast or nipple areola or axilla
B. **B**reast lump, bulge, blood vessels prominent
C. **C**olour change of skin or nipple areola
D. **D**eformed breast / nipple areola (nipple retraction), dimpling of skin,
Discharge from nipple,
Direct spread-skin (satellite nodule, ulcer, skin oedema), chest wall
Distant spread - headache, jaundice, dyspnoea, bone pains, ascites

Evaluation and management by multidisciplinary team (MDT) of oncology experts

SIGNS

A Breast changes
- Asymmetry in shape/size of breast or nipple areola complex
- Breast lump
- Nipple retraction/ulcer
- Change in skin - puckering, dimpling, thickening, ulcer, redness, edema & satellite nodules
- Fixity to underlying muscles or chest wall

B Lymph node
- lymph node(s) in axilla or supra-clavicular fossa

C Systemic changes
- Enlarged liver, ascites, bony tenderness, dyspnoea, pleural effusion

WORK UP OF A PATIENT WITH SUSPECTED BREAST CANCER- TRIPLE ASSESSMENT

CLINICAL BREAST EXAMINATION

IMAGING
- Bilateral mammogram: for women >30 years
- Ultrasound: breast and axilla
- MRI breast in selected cases

STAGING- T1, T2 N0 N1
Upto Stage 2A no metastatic work up
Stage 2B upwards
- Chest radiograph
- Ultrasound whole abdomen
- Bone scan
- CECT chest and abdomen
- PET-CT (optional)

PATHOLOGY
- Core needle biopsy (preferred) for type, grade, ER, PR, HER2/neu, Ki-67
- FISH test if HER-2/neu on IHC-2+/ equivocal

DO NOT
- Ignore any lump or changes in breast & nipple areola complex
- Perform excision biopsy for diagnosis
- Perform FNAC or core needle biopsy before imaging.

MULTIDISCIPLINARY CARE

MANAGEMENT OF BREAST CANCER

Triple assessment (CBE, USG breast and axilla, mammography and core biopsy

EARLY BREAST CANCER
T1, T2, N0, N1, M0
- Surgery followed by adjuvant therapy
- Metastatic work-up usually not indicated

For breast
- Surgery
- Primary systemic therapy → Surgery
- Discuss adjuvant therapy in MDT

For axilla (clinico-radiological assessment)
- Node -ve → SLNB/axillary sampling → -ve: No ALND; +ve: ALND
- Node +ve → ALND

ADJUVANT THERAPY (AT)

Chemotherapy
- Consider for all patients with pT > 1 cm or node positive disease based on ER/PR/HER2 /Ki-67

Radiotherapy
- After breast conservation surgery
- After mastectomy with node-positive disease or pathological T3/T4

Targeted therapy
- All HER-2/neu positive (3+) or FISH HER-2 amplified patients should receive trastuzumab for 12 months
- Shorter schedules: 9 weeks to 6 months acceptable in some patients

Hormone therapy
- All ER and /or PR positive cases
- For premenopausal women tamoxifen and for post menopausal women tamoxifen or aromatase inhibitors are appropriate
- Minimum for 5 years, if high risk of recurrence like node positive, consider for up to 10 years
- If AT is used zolendronic acid or other bisphosphonates can be added

ADVANCED BREAST CANCER
T3, T4, any N Any T, N2, N3

Metastatic work up: Chest X-ray, ultrasound abdomen, bone scan
OR
CECT thorax abdomen, bone scan OR PET-CECT whole body

No metastasis

Locally Advanced Breast Cancer
Intent of treatment: curative
- Neoadjuvant systemic therapy
- Discuss extent of surgery MRM or Breast conservation surgery
- Adjuvant systemic treatment therapy +RT surgery

Yes metastasis

Metastatic Breast Cancer
Intent of treatment: palliative care
- Consider hormone therapy chemotherapy targeted therapy as clinically indicated

Treatment of metastatic breast cancer

Chemotherapy
- Consider - Anthracyclines taxanes, platinum, capecitabine, cyclophosphamide, methotrexate, etc.
- Sequential single agents preferred over combinations when possible

Hormonal therapy
- Consider - tamoxifen, aromatase inhibitors, fulvestrant, megesterol acetate, CDK 4/6 inhibitors, everolimus
- Ovarian suppression indicated in premenopausal MBC patients, which can be surgical (bilateral oophorectomy) or radiotherapeutic (ovarian radiation) or medical (GnRH analogues)

HER2 targeted therapy
- Consider - trastuzumab, lapatinib, pertuzumab, add trastuzumab-emtansine

Bone targeted therapy
- All patients with bone metastases should receive a bone modifying agent (e.g zoledronic acid) 4-12 weekly

Role of surgery
- It is indicated only for palliation of local tumour symptoms bleeding, fungation, etc
- Insert intercostal drainage tube for malignant pleural effusion and chemical pleurodesis with talcum powder or bleomycin

Role of radiotherapy
- Most effective method for pain relief in bone metastasis
- Is routinely used for brain metastasis: Hemostatic RT used for bleeding ulcer

Pain control and palliative care

ABBREVIATIONS

ALND: Axillary lymph node dissection
CECT: Contrast-enhanced computed tomography
ER/PR: Estrogen receptor/Progesterone receptor
FISH: Fluorescence in situ hybridization
HER2: Human epidermal growth factor receptor 2
IHC: Immunohistochemistry
MBC: Metastatic breast cancer
PET-CT: Positron emission tomography-computed tomography scan
RT: Radiotherapy
SLNB: Sentinel lymph node biopsy

☛ENHANCE AWARENESS AND EARLY DETECTION OF BREAST CANCER BY SCREENING AS PER NATIONAL PROGRAMME

सत्यमेव जयते

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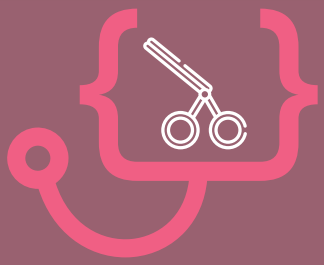


2022 Edition, Vol.III

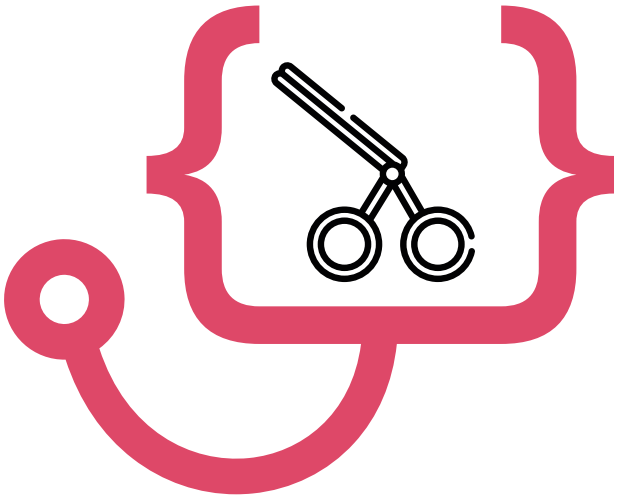
STANDARD TREATMENT WORKFLOWS

of India

PARTNERS

national health authority

World Health Organization India



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Printed in India

CONTENTS

Department of Health Research
Ministry of Health and Family Welfare, Government of India

INTRODUCTION

Department of Health Research
Ministry of Health and Family Welfare, Government of India

icmr INDIAN COUNCIL OF MEDICAL RESEARCH

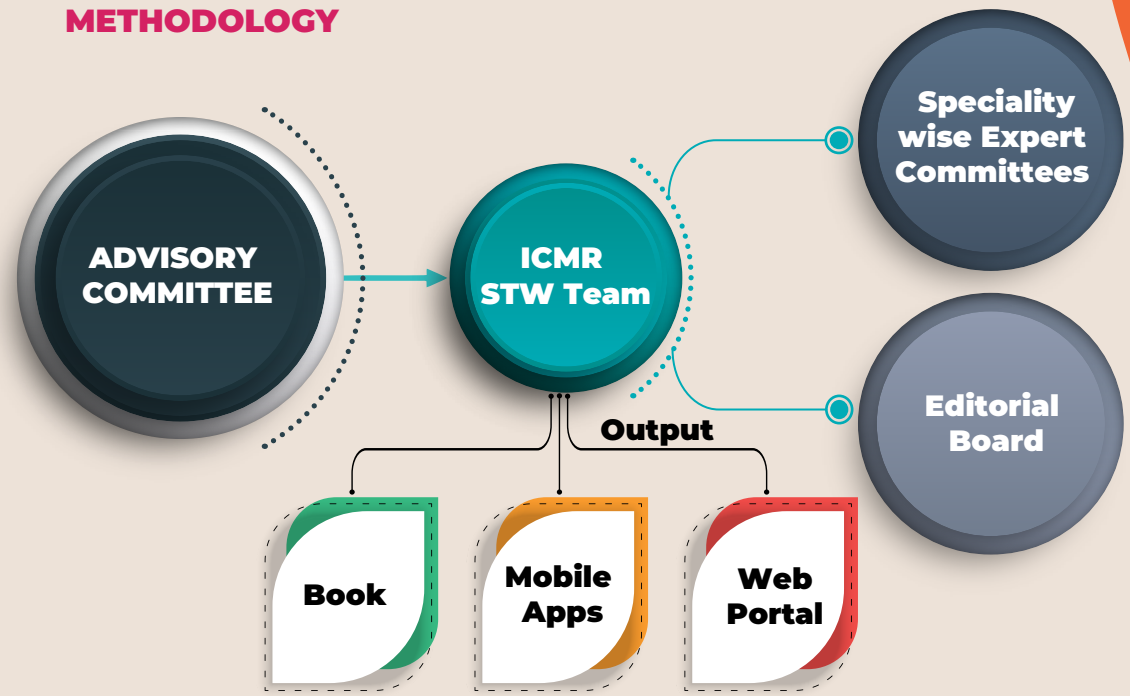
GOAL

To empower the primary, secondary and tertiary health care physicians/surgeons towards achieving the overall goal of Universal Health Coverage with disease management protocols and pre-defined referral mechanisms by decoding complex guidelines.

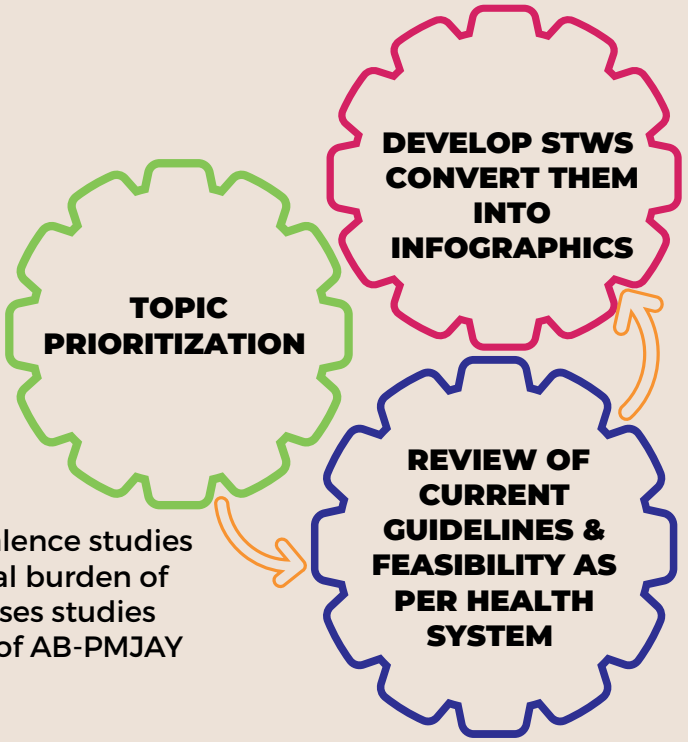
OBJECTIVES

To formulate treatment algorithms for common and serious medical & surgical conditions for both outdoor & indoor patient management at primary, secondary and tertiary levels of India's healthcare system that are scientific, robust and locally contextual.

METHODOLOGY



PROCESS OVERVIEW



- Participation also from Public Health Specialists Search Strategists Graphic Designers

- Prevalence studies
- Global burden of diseases studies
- HBP of AB-PMJAY

- Review by Editorial Board
- Approval by Advisory Committee

ONCOLOGY

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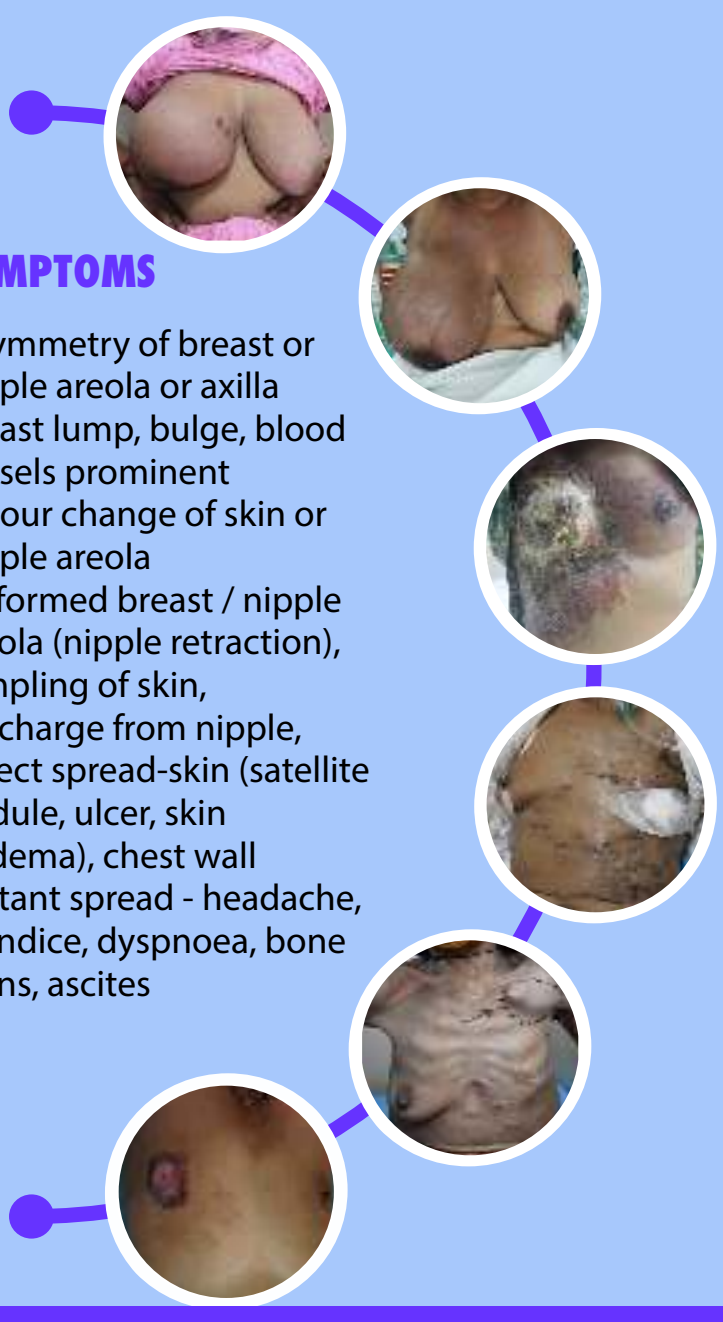

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- Consider - trastuzumab, lapatinib, pertuzumab, add trastuzumab-emtansine

Bone targeted therapy
- All patients with bone metastases should receive a bone modifying agent (e.g zoledronic acid) 4-12 weekly

Role of surgery
- It is indicated only for palliation of local tumour symptoms bleeding, fungation, etc
- Insert intercostal drainage tube for malignant pleural effusion and chemical pleurodesis with talcum powder or bleomycin

Role of radiotherapy
- Most effective method for pain relief in bone metastasis
- Is routinely used for brain metastasis: Hemostatic RT used for bleeding ulcer

Pain control and palliative care

ABBREVIATIONS

ALND: Axillary lymph node dissection
CECT: Contrast-enhanced computed tomography
ER/PR: Estrogen receptor/Progesterone receptor
FISH: Fluorescence in situ hybridization
HER2: Human epidermal growth factor receptor 2
IHC: Immunohistochemistry
MBC: Metastatic breast cancer
PET-CT: Positron emission tomography-computed tomography scan
RT: Radiotherapy
SLNB: Sentinel lymph node biopsy

☛ENHANCE AWARENESS AND EARLY DETECTION OF BREAST CANCER BY SCREENING AS PER NATIONAL PROGRAMME

July/ 2020

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Ministry of Health and Family Welfare, Government of India

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Standard Treatment Workflow (STW)

LUNG CANCER

ICD-10-C34.90

Evaluation and management by multidisciplinary team (MDT) of oncology experts

PRESENTATION

- Cough
- Chest pain
- Hemoptysis
- Hoarseness
- Breathlessness
- Non resolving pneumonia
- Mass lesion
- Symptoms persist even after treating pneumonia

IMPORTANT ASSESSMENT PARAMETERS

- Pulmonary function
- Age and comorbidities
- Performance status

Clinical examination:

- Palpable lymph nodes
- Chest wall tenderness
- Skeletal tenderness
- Pleural effusion

INITIAL EVALUATION

- CXR
- Sputum cytology
- Pulmonary reserve:
  - Effort tolerance
  - Walk test
  - Pulmonary function tests (PFT)

DIAGNOSTIC CONFIRMATON

LIMITED DISEASE

- CECT thorax and upper abdomen
- Obtain tissue for diagnosis percutaneously by image guidance or by bronchoscopy

ADVANCED DISEASE

- Pleural fluid cytology
- Pleural biopsy (image guidance if available)
- Cervical lymph node aspiration cytology / biopsy

All lung shadows are not tuberculosis ! Obtain diagnostic investigations before starting empirical ATT !

PATHOLOGY ASSESSMENT

Biopsy/ cell block/ smear

- **Histopathology** adenocarcinoma, squamous carcinoma, poorly differentiated carcinoma, small cell carcinoma
- **Immunohistochemistry** TTF 1, p40, synaptophysin/ chromogranin
- **Preserve tissue for molecular analysis** Molecular tests for adenocarcinoma: EGFR, ALK, ROS-1

SMALL CELL LUNG CARCINOMA

Do CECT thorax and abdomen

- **Non metastatic disease** T1-4, N0-3, M0
  - Metastatic work up: PET CT & MRI brain
  - Consider surgery for T1-2, N0
  - Concurrent CT + RT
- **Metastatic disease** Any T, any N, M1
  - Prophylactic cranial irradiation
  - Symptomatic & supportive care
  - Palliative chemotherapy carboplatin + etoposide

NON SMALL CELL LUNG CARCINOMA

Do CECT thorax and abdomen

- **Non metastatic disease:** T1-4, N0-3
  - Metastatic work up: PET CT and MRI brain
- **Metastatic disease:** Any T, any N, M1
  - Symptomatic & supportive care
  - Refer to oncology centre
  - Palliative chemotherapy (platinum doublet in fit patients, single agent chemotherapy for PS 2)
  - Oral TKI if target mutation detected
  - Immunotherapy may be an option in some patients

MANAGEMENT OF NSCLC

METASTATIC WORKUP* PET-CT SCAN AND MRI BRAIN

Early localized : T1-3, N0-2

EBUS/ EUS ± mediastinoscopy

<N2

N2

N3

Unfit or patient refuses surgery

SBRT/ RFA T1-2, N0-2

Concurrent CT+ RT

Lung resection- lobectomy with SMLND

If operated without NACT Stage II and III A, T>4 cm:

- Adjuvant RT for positive cut margins & pN_2
- Adjuvant chemotherapy
- Consider Osimertitinib if EGFR mutation+

NACT

Oral TKI

Locoregionally advanced : T4, N3

Metastatic disease. any T, any N, M1

Brain/ symptomatic bone metastases

Pallative radiation; Bisphosphonates for bone metastases

Other visceral metastases

Histology

Non- Squamous

Squamous carcinoma

Driver mutation test

Mutation -ve

Platinum doublet chemotherapy or chemoimmunotherapy

Mutation +ve

Oral TKI or platinum doublet chemotherapy

EGFR/ ALK testing/ ROS-1/ NGS Platform

EGFR +ve

ALK +ve/ ROS-1

Oral TKI

EGFR/ ALK -ve/ ROS-1

Platinum doublet chemotherapy or chemoimmunotherapy

AVAILABLE TREATMENT OPTIONS

- Chemotherapy doublet:
  - Carboplatin or cisplatin with pemetrexed or paclitaxel or gemcitabine or etoposide
- EGFR mutation positive: gefitinib, afatinib, osimertinib, erlotinib, dacomitinib
- Immune checkpoint inhibitors: nivolumab, atezolizumab, pembrolizumab, ipilimumab

PALLIATIVE CARE

- Radiotherapy
- Pain management
  - Opioids: morphine, tramadol, oxycodone
  - Paracetamol, nonsteroidal anti-inflammatory drugs
- Cough suppressants
- Treatment of chronic obstructive pulmonary disease
- Treatment of anemia, anorexia, electrolyte abnormalities

ABBREVIATIONS

ALK: Anaplastic lymphoma kinase
ATT: Anti tubercular therapy
CECT: Contrast-enhanced computed tomography
COPD: Chronic obstructive pulmonary disease
CT: Computed tomography
CXR: Chest X Ray
EBUS: Endobronchial ultrasound
EGFR: Epidermal growth factor receptor
NACT: Neoadjuvant chemotherapy
NGS: Next generation sequencing
NSCLC: Non-small cell lung cancer
PET CT: Positron emission tomography
PFT: Pulmonary function test
pN2: Pathological node
RFA: Radiofrequency ablation
ROS: Ros proto-oncogene 1
RT: Radiotherapy
SBRT: Stereotactic body radiotherapy
SMLND: Systematic lymph node dissection
T, N, M: Tumour (T), Nodes (N), and Metastases (M)
TKI: Tyrosine kinase inhibitors

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES.

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of DHR for more information: (**stw.icmr.org.in**) for more information.

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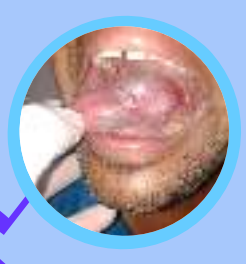
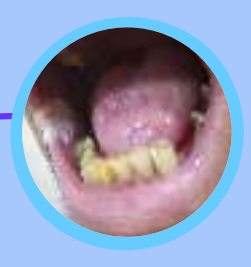
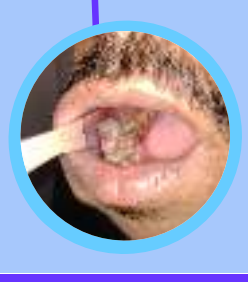
Standard Treatment Workflow (STW)

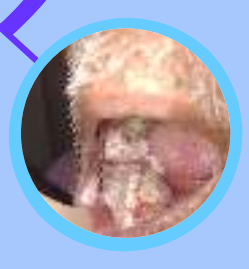
LIP AND ORAL CANCER

ICD-10-C 06.9









- **Tobacco**
- **Alcohol**
- **Areca nut**
- **Sharp tooth**
- **Ill-fitting dentures**

- Non healing ulcer/ sore in the mouth especially in a tobacco chewer or smoker
- Neck mass
- Difficulty in opening mouth
- Difficulty in protrusion of tongue
- Pain referred to ear
- Oral premalignant disorders (OPMD): leukoplakia/ erythroplakia/sub mucous fibrosis, lichen planus

Screening can detect OPMD and invasive cancer early and improve outcome. Treatment of oral cancer is ideally delivered by a multidisciplinary team(MDT)

EVALUATION

- Clinical examination, +/- examination under anaesthesia (EUA), assess pain, nutritional status, & oro-dental hygiene
- USG neck / CT scan head & neck
- Evaluate upper aerodigestive tract for second primary
- Biopsy from primary site, FNAC from neck node
- CBC, LFT, RFT, blood sugar, chest X-ray, ECG
- Tobacco cessation for patient and care givers
- Pure tone audiometry (PTA)
- Speech and swallowing assessment
- Define clinical and radiological staging, goals of treatment

TREATMENT

T1 T2, N0 CANCER

OPTIONS WITH CURATIVE INTENT

Initial surgery **preferred** (wide excision with 1 cm margins & supra-omohyoid neck dissection (Level I – III) with reconstruction
OR
Radical radiation therapy

T3 T4A, N0 N1 N2

OPTIONS WITH CURATIVE INTENT

Initial surgery: wide excision with 1 cm margins + comprehensive neck dissection and reconstruction
OR
Chemoradiation
OR
Neo-adjuvant CT followed by surgery

T4B N3 (TONGUE AND BUCCAL CANCERS WITH SKULL BASE/ INTERNAL CAROTID ARTERY INVOLVEMENT

AIM OF TREATMENT IS PALLIATION

- Palliative chemotherapy
- RT
- Immunotherapy
- Best supportive care

INDICATIONS FOR ADJUVANT RT

Close margin, positive node(s), or presence of any two of following: LVI, PNI, high grade

INDICATIONS FOR ADJUVANT CT-RT:

Metastatic nodes with extracapsular extension, involved margins

THE DRUG OF CHOICE FOR CONCURRENT CHEMOTHERAPY IS CISPLATIN

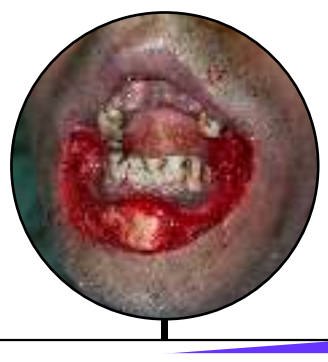
Adjuvant radiation

The minimum post-operative radiation dose is 60 Gy/ 6 weeks/ 30# or equivalent to the primary and nodal areas using conventional treatment planning, 3DCRT or IMRT

Radical radiation

66-70 Gy is delivered using conventional planning / 3DCRT/IMRT through a telecobalt machine or a LINAC at 1.8 to 2 Gy per fraction over 7-8 weeks (or a biologically equivalent dose) with adequate margins all around the lesion and including level I, II and III nodes

Large SCC lower Lip



Intraoperative image following tumor excision

Postoperative results following reconstruction

FOLLOW UP

Follow up: 3 monthly for the first 3 years, 6 monthly for years 4 & 5 and annually thereafter with clinical examination at every visit, evaluation of symptoms as they present and endoscopy of the upper aerodigestive tract annually

To identify recurrences and second primary cancers

Treatment of common side effects - xerostomia, speech and swallowing issues, nutrition and physical rehabilitation, dental care should be looked after by the members of multidisciplinary team

Emphasize tobacco cessation for patients

- Set a quit date, tell your family
- Remove tobacco / cigarettes from your home, car, and work

- **Tobacco withdrawal symptoms:**
  - Trouble sleeping
  - Feeling irritable, anxious, or restless
  - Getting frustrated or angry
  - Having trouble thinking clearly
- **Counsellor's help is available to deal with the cravings and triggers**
- **Can combine nicotine replacement with or ± bupropion**

ABBREVIATIONS

CBC: Complete blood count
CT: Chemotherapy
EUA: Examination under anaesthesia
FNAC: Fine needle aspiration cytology
IMRT: Intensity-modulated radiation therapy
LFT: Liver function tests
LVI: Lymphovascular invasion
MDT: Multidisciplinary team
OPMD: Oculopharyngeal muscular dystrophy
PNI: Perineural invasion
PTA: Pure tone audiometry
RFT: Renal function tests
RT: Radiotherapy
USG: Ultrasound sonography test

PREVENT ORAL CANCER BY TOBACCO CONTROL

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