Lesson 14: Reading an oncology report – how a doctor should interpret the key data

1. Why this lesson matters

Most cancer patients will come to you holding a bunch of papers:

- Biopsy/histopathology report
- Imaging reports (CT/MRI/PET-CT, USG, X-ray)
- A discharge summary or tumour board note
- Chemo / radiotherapy summaries
- Lab reports (CBC, LFT, RFT, tumour markers)

If you cannot decode these documents, you will:

- Underestimate or overestimate the seriousness of the case
- Give vague or wrong assurances
- Plan an Ayurvedic protocol that is too aggressive or too weak
- Miss the real clinical priorities (e.g., curative vs purely palliative)

This lesson will train you how to **systematically read and interpret** an oncology report, so that in a few minutes you can answer three core questions:

1. What exactly is the cancer and how far has it gone?
2. What is being done or planned on the modern side?
3. Given this, what is a rational integrative Ayurvedic plan?

Think of this as learning to “read the map” before you start treatment.

---

2. What do we mean by “oncology report”?

In practice, you will rarely get one single report titled “Oncology report”. Instead, you will see several key documents:

1. **Histopathology / biopsy report**
   - Confirms cancer type and grade
2. **Imaging reports**
   - CT/MRI/PET-CT/USG/X-ray describing size, spread, and organs involved
3. **Staging / tumour board note / discharge summary**
   - Combines pathology + imaging into a final stage (e.g. Stage IIIB)
   - Mentions treatment plan and intent (curative vs palliative)
4. **Chemo / RT summary**
   - Which drugs, doses, cycles, RT fields, completed or ongoing
5. **Lab summary**
   - CBC, LFT, RFT, tumour markers, other relevant tests

For integrative planning, your main focus should be on:

- Pathology report (what cancer, how aggressive)
- Staging summary (how far it has spread)
- Treatment plan/status (what is being done now)
- Performance status and organ function (what the patient can tolerate)

---

3. The six essential questions to ask every time

When you pick up any cancer file, mentally ask:

1. **Where is the cancer?** – organ/site
2. **What type of cancer is it?** – histology
3. **How advanced is it?** – stage (TNM / Stage I–IV)
4. **How aggressive is it?** – grade, markers, proliferation index
5. **What is the current treatment plan and intent?** – curative, control, palliative
6. **What is the patient's overall condition?** – performance status + organ reserve

Everything you read in the report should feed into these six answers.

---

4. Step-by-step: how to read a pathology report

The pathology / biopsy report is usually the **central document**.

4.1 Step 1: Confirm identity and specimen

Check:

- Patient name, age, sex
- Specimen type and site
  - "Core biopsy from left breast lump"
  - "Endoscopic biopsy from gastric antrum"
  - "Excision biopsy of cervical lymph node"

This ensures you are discussing the right organ and the right patient.

4.2 Step 2: Read the diagnosis line carefully

Look for a line usually starting with:

- "Diagnosis:"
- "Impression:"
- "Final diagnosis:"

Examples:

- "Invasive ductal carcinoma of breast, Grade 2"
- "Squamous cell carcinoma, moderately differentiated, oral tongue"
- "Adenocarcinoma, poorly differentiated, colon"
- "Diffuse large B-cell lymphoma"

From this, you know:

- Malignancy present
- Cell type: carcinoma, sarcoma, lymphoma, etc.
- Organ/site
- Grade (well / moderately / poorly differentiated)

4.3 Step 3: Look for grade and special features

Within the microscopic description or in the diagnosis, note:

- **Grade** (1, 2, 3 or low / intermediate / high)

- **In situ vs invasive** (if mentioned)
- Any mention of:
    - Lymphovascular invasion (LVI)
    - Perineural invasion (PNI)

More LVI/PNI = higher risk of spread.

4.4 Step 4: In surgical specimens – margins and lymph nodes

If the tumour has been surgically removed, the report often includes:

- Size of tumour (in cm)
- Margin status:
    - "All margins free" / "R0 resection" – best
    - "Margins involved" – higher recurrence risk
- Lymph nodes:
    - "12 nodes examined, 3 involved"

This tells you:

- How completely the tumour was removed
- How many nodes are involved (contributes to stage)

4.5 Step 5: For certain cancers – receptor / molecular markers

Especially important in breast, some GI, lung, and hematologic cancers.

For example, in breast cancer:

- ER/PR status (hormone receptors)
- HER2 status
- Ki-67 proliferation index

In lymphomas:

- CD markers (CD20, CD3, etc.)

You don't need to memorise all markers, but you should understand:

- These help oncologists decide targeted and hormonal therapies
- They also give a sense of tumour biology (e.g., triple negative = more aggressive)

---

5. How to read a staging/tumour board note

Often you will see a line like:

> "Stage: IIIB (cT3N2M0)"

5.1 Decode TNM

- **T** – Tumour size/local extent
- **N** – Nodal status
- **M** – Distant metastasis

You don't need organ-specific details; conceptually remember:

- Higher T = larger / more locally invasive tumour
- Higher N = more lymph node involvement
- M1 = distant metastasis present

5.2 Decode the stage (I–IV)

General idea:

- Stage I–II: Localised / early
- Stage III: Locally advanced, often nodal disease
- Stage IV: Distant metastasis

Immediately ask yourself:

- Is this potentially **curable** (early/moderately advanced, no distant metastasis)?
- Or largely **incurable but controllable/palliable** (Stage IV, extensive disease)?

This determines your integrative goal:
supporting **cure + long survivorship** vs **control + comfort**.

---

6. How to read an imaging summary in a practical way

You don't need to interpret every word. Focus on:

- Size and location of primary lesion
- Lymph nodes: sites and number
- Distant lesions: liver, lung, bone, brain, etc.
- Complications: obstruction, effusion, fractures, organ compression

Look at the **impression** / **conclusion** section first. Examples:

- "Heterogenous mass lesion in left lung upper lobe, 4.5 cm, with mediastinal lymphadenopathy; no definite distant metastasis seen."
- "Multiple hypodense lesions in liver suggestive of metastasis."
- "No evidence of recurrence or metastasis on this scan."

From this, you quickly gauge:

- Local vs systemic disease
- Whether the latest scan shows progression, stability, or response

Cross-check with previous scans (if present) to see the **trend**.

---

7. How to read treatment and intent information

In discharge summaries, tumour board notes or oncology OPD notes, look for:

1. **Intent**
    - Words like "curative", "adjuvant", "neoadjuvant", "palliative", "best supportive care"
    - Curative / adjuvant: tumour is resectable or limited; goal is long-term disease-free survival
    - Palliative: disease not curable; goal is symptom control and prolongation with QOL
2. **Treatment given or planned**
    - Surgery: which surgery, date, margin status

- Chemotherapy: regimen name (e.g., FOLFOX, CHOP, AC-T), number of cycles completed/planned
- Radiotherapy: dose (Gy), number of fractions, area treated
- Targeted/Immunotherapy: drug names and schedule

3. **Current status**
   - "Completed 6 cycles of adjuvant chemotherapy"
   - "On second-line palliative chemotherapy"
   - "Disease progression on last CT"
   - "Currently on hormonal therapy only"

This tells you **where in the journey** the patient is:

- Pre-treatment
- In-between cycles
- Post-treatment remission
- Relapse / progression
- End-of-life phase

Each phase needs a different Ayurvedic strategy.

---

8. Putting it all together – a worked example

8.1 Sample report (compressed)

- Patient: Mrs X, 48 years
- Biopsy diagnosis: "Invasive ductal carcinoma, left breast, Grade 2"
- IHC: ER/PR positive, HER2 negative, Ki-67 15%
- Surgery: Left modified radical mastectomy
- Histopathology (surgical specimen):
  - Tumour size: 2.8 cm
  - Margins: free (R0)
  - Lymph nodes: 14 examined, 3 involved
  - Lymphovascular invasion: present
- Stage: pT2N1M0 – Stage IIB
- ECOG: 1
- Treatment plan: 6 cycles of adjuvant chemotherapy, followed by radiotherapy and 5 years of hormonal therapy (tamoxifen/AI).

8.2 How you read this in 1–2 minutes

1. **Where & what?**
   - Breast cancer (invasive ductal carcinoma), left side
2. **How far?**
   - Stage IIB (T2 tumour, some nodes positive, no distant mets) → potentially curable, but moderate recurrence risk
3. **Aggressiveness?**
   - Grade 2 (intermediate)
   - ER/PR positive (hormone-responsive, generally better prognosis)
   - HER2 negative (no HER2-targeted therapy; often somewhat less aggressive than HER2+ but varies)
   - Ki-67 15% (moderate proliferative activity)
4. **Surgery result?**
   - R0 margins (good)
   - 3/14 nodes positive, LVI present → need adjuvant therapy; risk not negligible
5. **Treatment intent?**
   - Clearly **curative** (adjuvant chemo, RT, then hormonal therapy)

---

6. **Patient condition?**
    - ECOG 1 → good functional status, can tolerate standard therapy

8.3 Your integrative decisions

- Phase: Curative, adjuvant therapy, good PS
- Ayurveda plan:
    - During chemo/RT
        - Focus on Agni support, side-effect management, mild Rasayana
        - Avoid heavy Pañcakarma; mild supportive therapies ok
    - After completion
        - Long-term Rasayana and lifestyle program aimed at:
            - Rasa–Rakta–Māṃsa and Meda balance
            - Weight and metabolic optimisation
            - Stress and sleep management
    - Communication
        - Explain that prognosis is reasonably good but not risk-free; emphasise the importance of completing modern treatment and following pathya–apathya.

This is how you convert raw report data into a clear, action-oriented integrative plan.

---

9. Common mistakes doctors make while reading oncology reports

1. **Looking only at the name of the cancer, ignoring stage and grade**
    - “Breast cancer” alone is meaningless without stage and biology.
2. **Overfocusing on tumour markers**
    - Celebrating a drop in marker while CT shows progression
    - Or panicking on slight marker rise without imaging correlation
3. **Ignoring performance status and organ functions**
    - Planning aggressive Pañcakarma or heavy Rasayana in ECOG 3–4 or poor LFT/RFT
4. **Misunderstanding “palliative”**
    - Thinking palliative = “nothing can be done”; in reality, much can be done for comfort and QOL.
5. **Not checking dates**
    - Old reports may not reflect current reality; always look at the **latest** pathology/imaging.
6. **Not integrating pieces**
    - Reading pathology, imaging, and treatment notes separately without synthesising them into one clinical picture.

---

10. A simple checklist for reading any oncology file

When a new patient arrives, you can literally use this as a mental or written checklist:

1. Identity and basics
    - Name, age, sex, primary site
2. Pathology
    - Histology (what type of cancer)
    - Grade (low/intermediate/high)
    - Margins (if surgery done)
    - Nodes, LVI/PNI
3. Staging
    - TNM and overall Stage I–IV
    - Any mention of metastasis (where?)

---

4. Biology / markers
    - ER/PR/HER2, Ki-67 (for breast)
    - Other relevant markers depending on cancer type
5. Imaging
    - Latest CT/MRI/PET-CT summary: local vs distant disease
    - Trend: stable, improving, or progressive
6. Treatment and intent
    - Past: surgery, chemo, RT done
    - Present: what is ongoing now
    - Intent: curative vs palliative
7. Patient status
    - Performance status (ECOG/KPS)
    - Key labs (CBC, LFT, RFT)
8. Integrative plan
    - Phase: curative / control / comfort
    - Intensity: can I afford strong interventions or only gentle support?
    - Priorities: Agni, Ojas, symptom relief, psychological/spiritual support

---

11. Key take-home points

1. An “oncology report” is really a combination of pathology, imaging, staging, treatment, and lab data – you must learn to tie them together.
2. Always answer six core questions: where, what type, how far, how aggressive, what is being done, and what is the patient’s overall condition.
3. Pathology confirms the **type and grade** of cancer; staging and imaging show **extent**; markers show **biology and response trends**.
4. Treatment intent (curative vs palliative) and performance status are crucial for deciding how aggressive your Ayurvedic plan can be.
5. Use a structured reading approach instead of randomly scanning reports; within a few minutes, you should be able to summarise the case in both modern and Ayurvedic language.
6. Correct reading of oncology reports makes your integrative practice safe, realistic, and deeply professional.

---

12. Review questions

1. When you receive a new oncology file, what are the first six questions you should mentally ask before planning treatment?
2. In a pathology report, which elements must you always look for apart from the diagnosis line? List at least five.
3. A discharge summary says: “Stage IV adenocarcinoma lung with liver metastases, ECOG 3, palliative chemotherapy planned.” How will this change your Ayurvedic objectives compared to a Stage I, ECOG 0 patient?
4. Why is it dangerous to base your clinical decisions primarily on tumour marker levels without correlating imaging and pathology?
5. Given the sample case of Stage IIB ER/PR positive breast cancer (curative intent, ECOG 1), outline your integrative priorities during:
    - (a) Active chemo/RT
    - (b) Post-treatment survivorship phase
6. Create a short summary (3–4 lines) combining modern and Ayurvedic viewpoints for a hypothetical patient with “moderately differentiated squamous cell carcinoma of tongue, Stage III, ECOG 2, completed surgery and awaiting adjuvant RT.”

End of Lesson 14 – Reading an oncology report and interpreting key data