Implementing and Optimising Locally Advanced MDTs

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THINK AGAIN LUNG SUMMIT

Disclosures

Dr Craig Dyer: I have received honoraria from Roche, Lilly, and AstraZeneca, and for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Ms Rebecca Pickles: I have received honoraria for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Dr Eleanor Smith: I have received honoraria for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Stage III treatment options **COMPLEX**

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Stage IIIA		Stage IIIB & IIIC
Surgery (Neoadjuvant)	Chemo	Neoadjuvant chemo +/- immunotherapy before surgery
	Chemo with immunotherapy	
Surgery (Adjuvant)	Chemo	Surgery
	Chemo with immunotherapy	Chemotherapy after surgery
	Radiotherapy	cCRT +/- immunotherapy
	Targeted cancer drugs	
Radiotherapy	Unimodality	Immunotherapy
	Sequential chemoradiation	
	cCRT +/- immunotherapy	Targeted cancer drugs
		Radiotherapy – unimodality, sequential

cCRT, concurrent chemoradiotherapy.

Data provided courtesy of speaker.

Why was the Stage III MDT developed in 2021?

Part of a wider strategy to increase uptake of cCRT across the region…

AS

…retrospective audits had shown that there were patients eligible for cCRT who were not treated with cCRT.

MDT, multidisciplinary team; cCRT, concurrent chemoradiotherapy.

Speaker's clinical expertise.

Audit 2019 data: Reasons for no cCRT (N=55)

Reason Code (8)	Stage III 55Gy 20# (N=55)
1. Comorbidity	16
2. Size (decision made at local lung MDT: large volume)	18
3. No histopathology	3
4. Consented for cCRT, disease progression/too big at radiotherapy planning	6
5. Relapse	3
6. Reason not annotated	5
7. Patient declined	2
8. Adjuvant RT after surgery	2

Lilac = Optimisation?

cCRT, concurrent chemoradiotherapy; Gy, Gray; MDT, multidisciplinary team; RT, radiotherapy.

Data provided courtesy of speaker.

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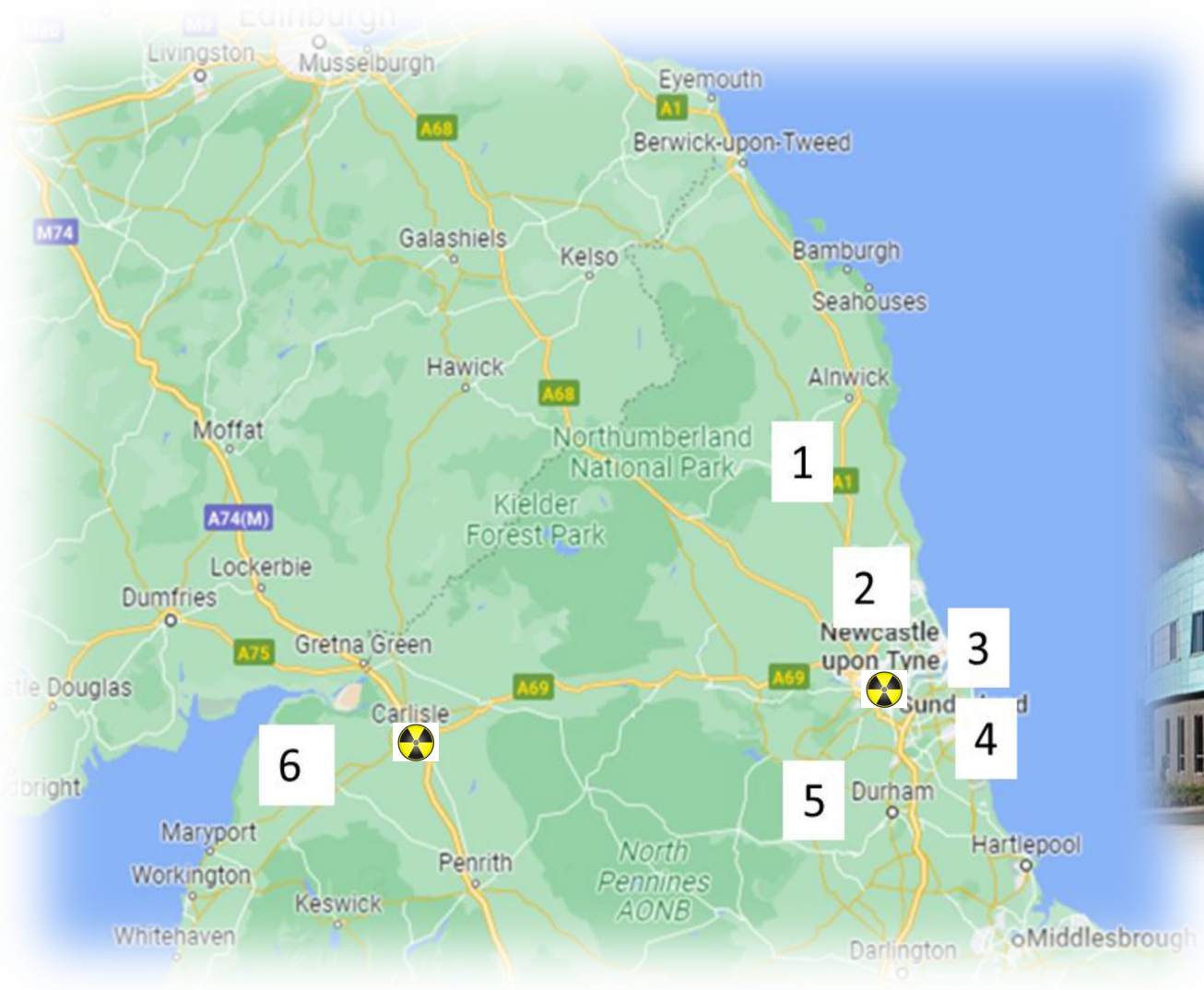
ONE SIZE FITS ALL



Population: <2 million
NCCC & NCCC @CIC

CIC, Cumbria Integrated Care; NCCC, Northern Centre for Cancer Care.

Images provided courtesy of speaker.

What did we do before Stage III MDT?

- **Local Respiratory MDT – Single oncologist, single surgeon**
- **Referral to same CCO and review in local oncology clinic**
- **Consent and referral for radiotherapy**
- **Weekly lung radiotherapy planning meeting**
- **Radiotherapy planning/treatment**
  - Individual CCO contour
  - PEER Review
  - Original CCO prescription
  - CCO on-treatment review/AHP

Discussion at planning meeting was the first peer review of Rx plan and could lead to late change of treatment plan

AHP, Allied Health Professional; CCO, Clinical Consultant Oncologist; MDT, multidisciplinary team; Rx, radiotherapy.

Speaker's clinical expertise.

What were the challenges of this approach?

- Variable experience in CCO cCRT decision making
- Variable confidence in cCRT decision making – New consultants
- **Negative experience in getting patients through cCRT treatment (primarily experience with SOCCAR 55/20 cCRT)**
- Differing opinions between CCOs

NOT EQUITABLE SERVICE across the region

- What is “too big”, which patients are “too frail”
- CCO being “too aggressive – over treating” / “not brave – undertreating”
- Who can make decisions in CCO absence when solo working

CCO, Clinical Consultant Oncologist; cCRT, concurrent chemoradiotherapy.

Speaker’s clinical expertise.

To develop a resilient service by:

- Supporting decision making in complex/borderline patients
- **Peer support – throughout decision making and treatment**
- Using skills mix
- Benefit of technical/clinical support early from radiographers
    - Minimising impact of solo working in peripheral hubs
- Engagement across specialties (surgical/oncology/respiratory)

Speaker's clinical expertise.

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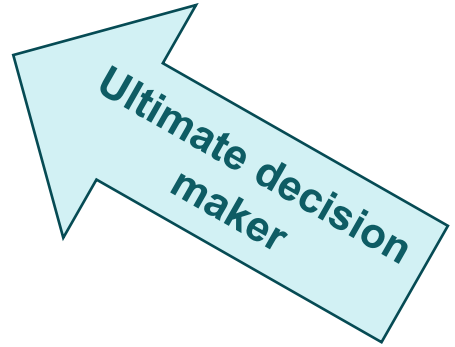
- Engagement across specialties (surgical/oncology/respiratory)

Close team working/decisions

Speaker's clinical expertise.

Current pathway

- **Local MDT – CCO/surgeon present**
- **Refer – central RT service**
- **Pooled referrals triaged by any CCO/clinic co-ordinator**
- **Patient reviewed by CCO in radiotherapy clinic and consented/referred for treatment**
- **Discussed in Stage III MDT – proceed with treatment**
- **Pooled radiotherapy planning (voluming/approval)**
  - Peer review of contour as standard
- **Weekly discussion in Stage III MDT**
  - Any technical issues
  - Plans for adjuvant therapy
  - Weekly On-treatment review by AHP



AHP, Allied Health Professional; CCO, Clinical Consultant Oncologist; MDT; multidisciplinary team; RT, radiotherapy.

Speaker's clinical expertise.

What were our initial steps?

Initial MDT September 2021 ~ 3-month pilot

- **3 “willing” CCO, covering 3 peripheral Lung MDTs**
- **1 “patient” Medical oncologist**
- **1 “organised” Consultant radiographer**
- **1 “tech savvy” Specialist treatment radiographer**

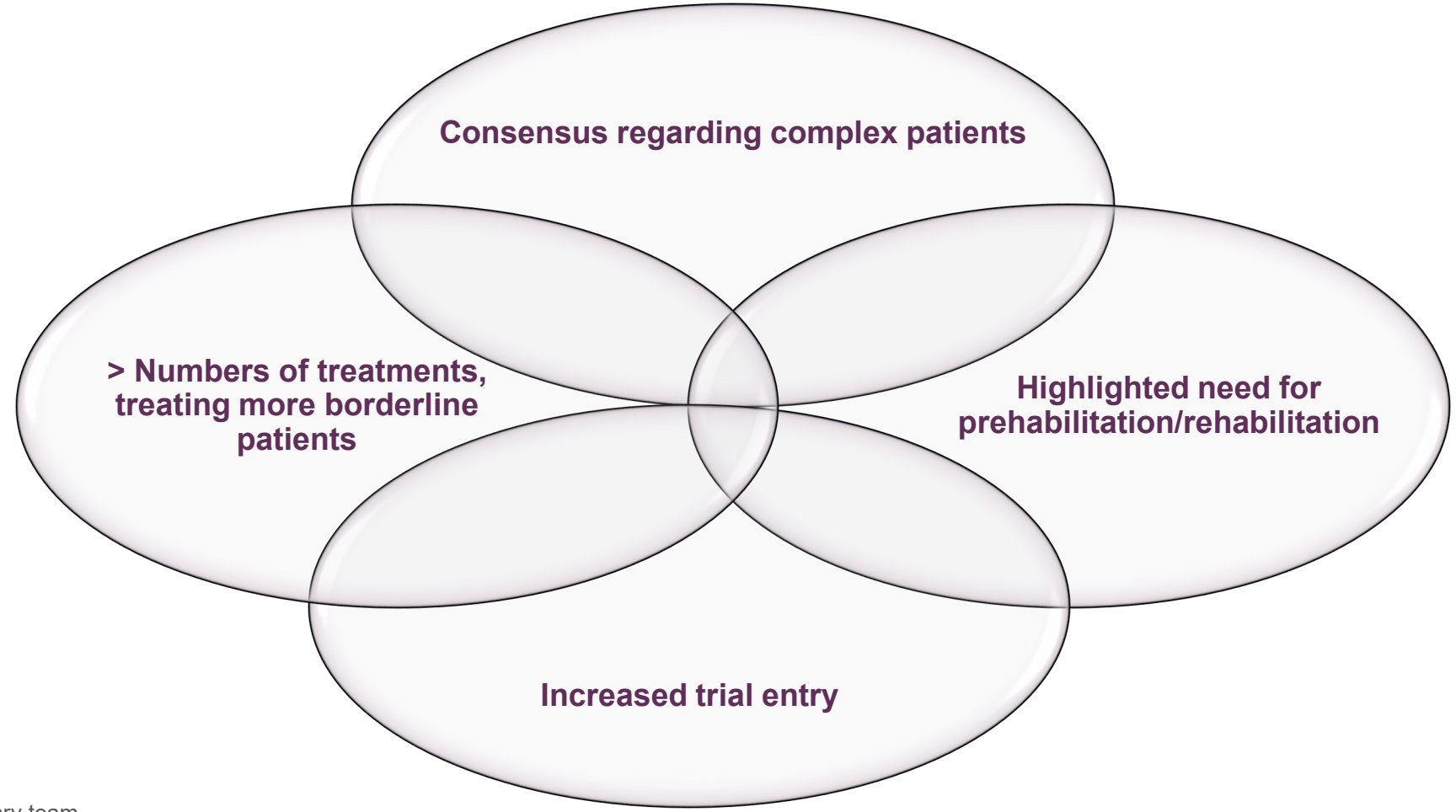
Support and buy in from Lung respiratory physician to provide additional help

- F2F Weekly MDT, maximum 1 hour
- NHS.net account setup to receive referrals from CCO sent at time of MDT
- Patients discussed after lung MDT but prior to oncology OPD
- Outcome recorded in database
- Patients often rediscussed after oncology review

CCO, Clinical Consultant Oncologist; F2F, face-to-face; MDT, multidisciplinary team; OPD, Outpatient Department.

Speaker’s clinical expertise.

Pilot of MDT: Audit outcomes



MDT, multidisciplinary team.

Speaker's clinical expertise.

Next steps?

- Expanded to all peripheral MDTs with patients attending Newcastle for radiotherapy
- **Setup a central radiotherapy clinic**
- Changed timing when a patient is discussed
- Temporarily recruited a dietician
- Recruited a surgeon to join us

- **KEPT AUDITING**

MDT, multidisciplinary team.

Speaker's clinical expertise.

Current MDT 2024

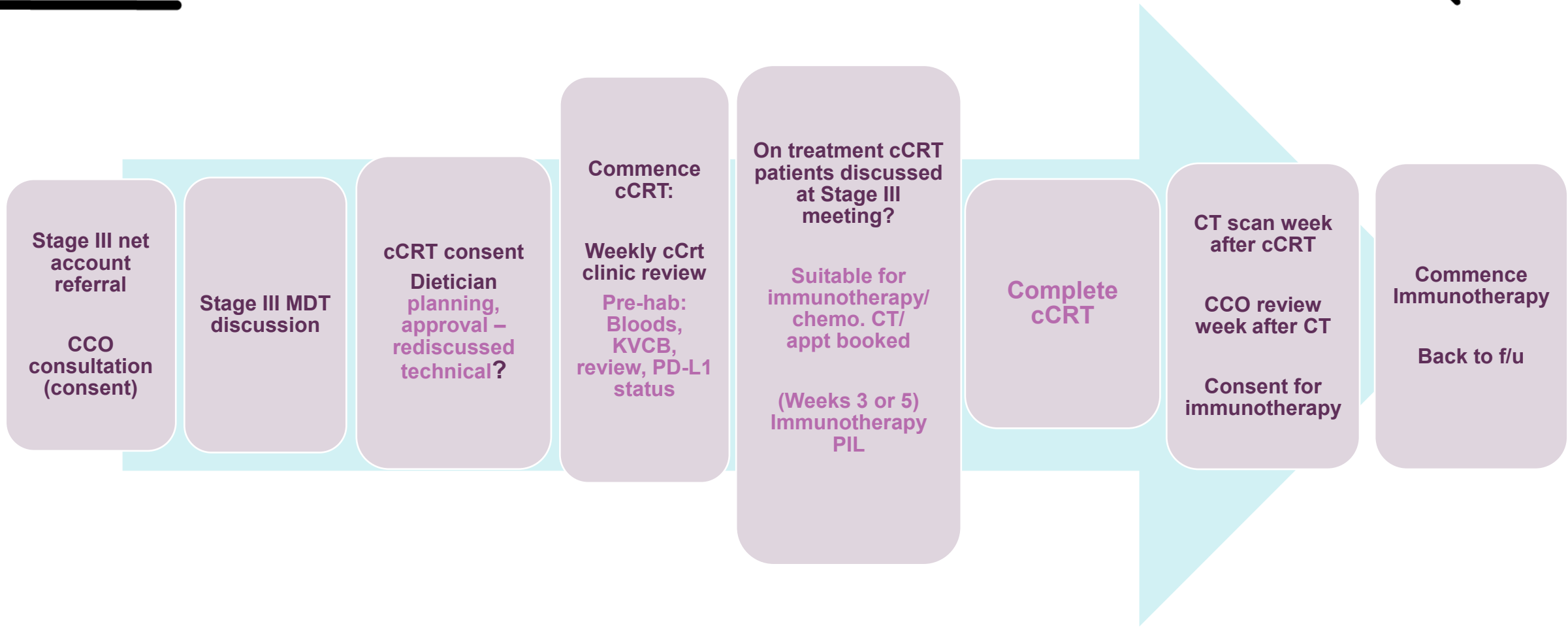
- Still weekly F2F (+TEAMS) MDT
- Expanded access across the regions MDT (including Cumbria)
- Discuss all Stage III patients (PS 0-2) regardless of planned treatment
- Expanded members of the MDT

  Dietician
- Prospective data collection including trial eligibility

F2F, face-to-face; MDT, multidisciplinary team; PS, Performance status.

Speaker's clinical expertise.

MDT– optimising pathway (cCRT)



CCO, Clinical Consultant Oncologist; cCRT, concurrent chemoradiotherapy; chemo, chemotherapy; CT, computed tomography; f/u, follow up; CT, computerised tomography; KVCB, kilovoltage Cone beam; MDT, multidisciplinary team; PD-L1, programmed death ligand-1; PIL, patient information leaflet; Pre-hab, prehabilitaton.

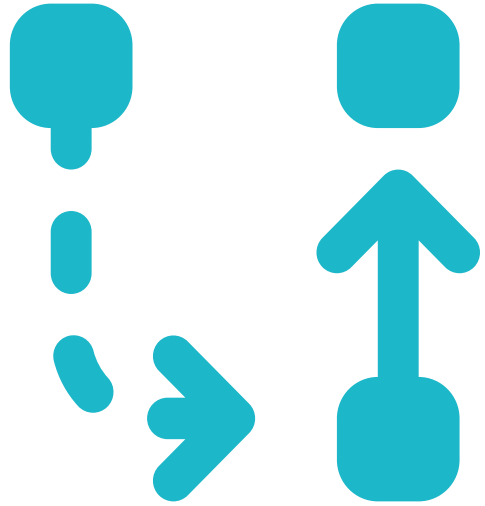
Speaker's clinical expertise.

It has evolved?

3 years of “hand holding” peer support has led to consensus regarding cCRT decisions

- **Move to team working**
- **Confidence gained**
- **Similar mind set & stability within team**

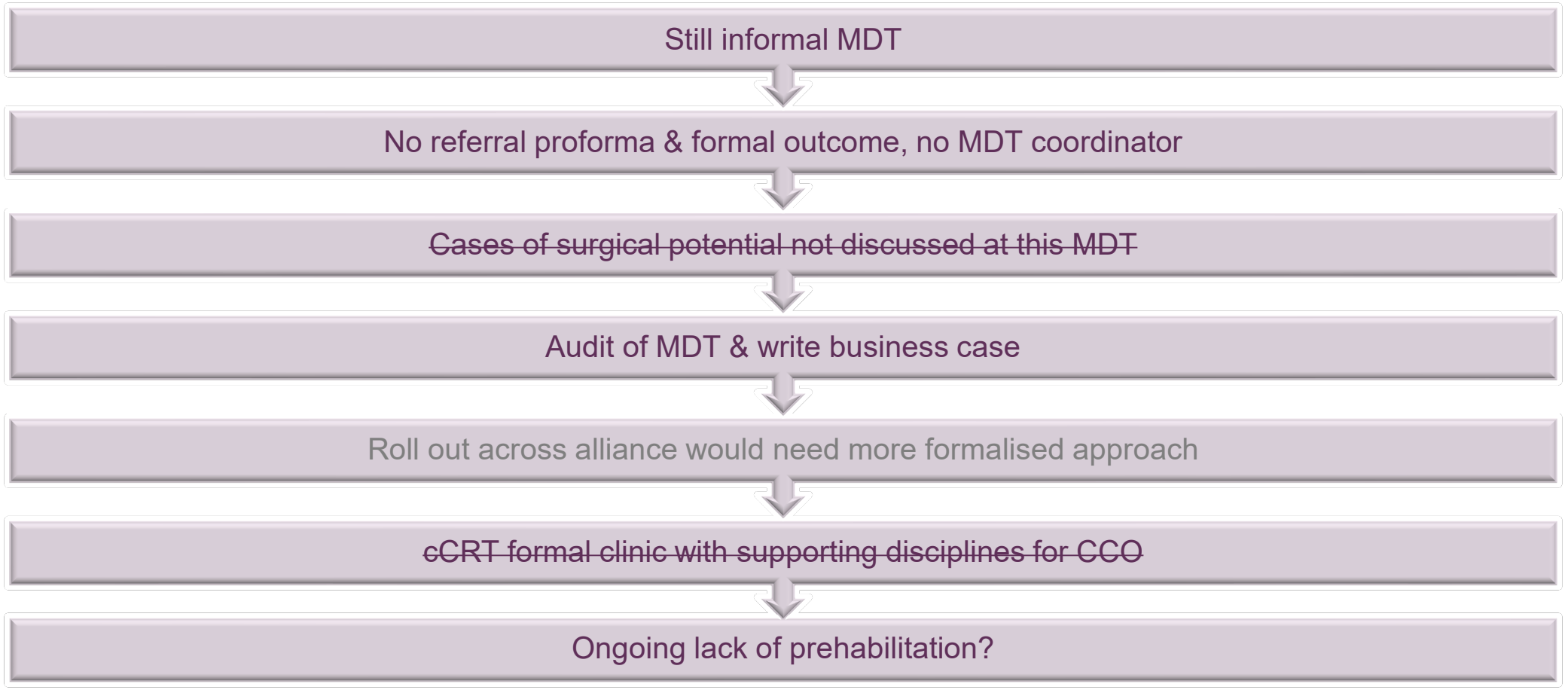
Now focus on problem solving, streamlining of work



cCRT, concurrent chemoradiotherapy.

Speaker’s clinical expertise.

Stage III MDT – Challenges/limitations

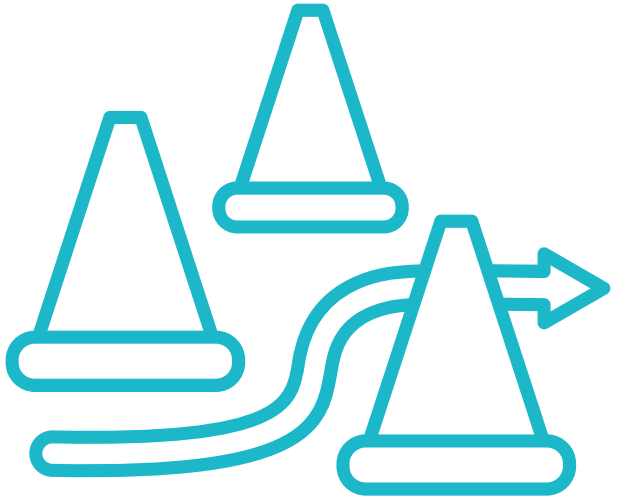


CCO, Clinical Consultant Oncologist; cCRT, concurrent chemoradiotherapy; MDT, multidisciplinary team.

Speaker's clinical expertise.

Our local challenges

- **Uptake of neo-adjuvant chemo-IO and surgery**
- **How can we complement developing neoadjuvant pathways?**
- **Capacity issues, increased patients, workforce pressures**
- **This MDT is time consuming with high consultant involvement**

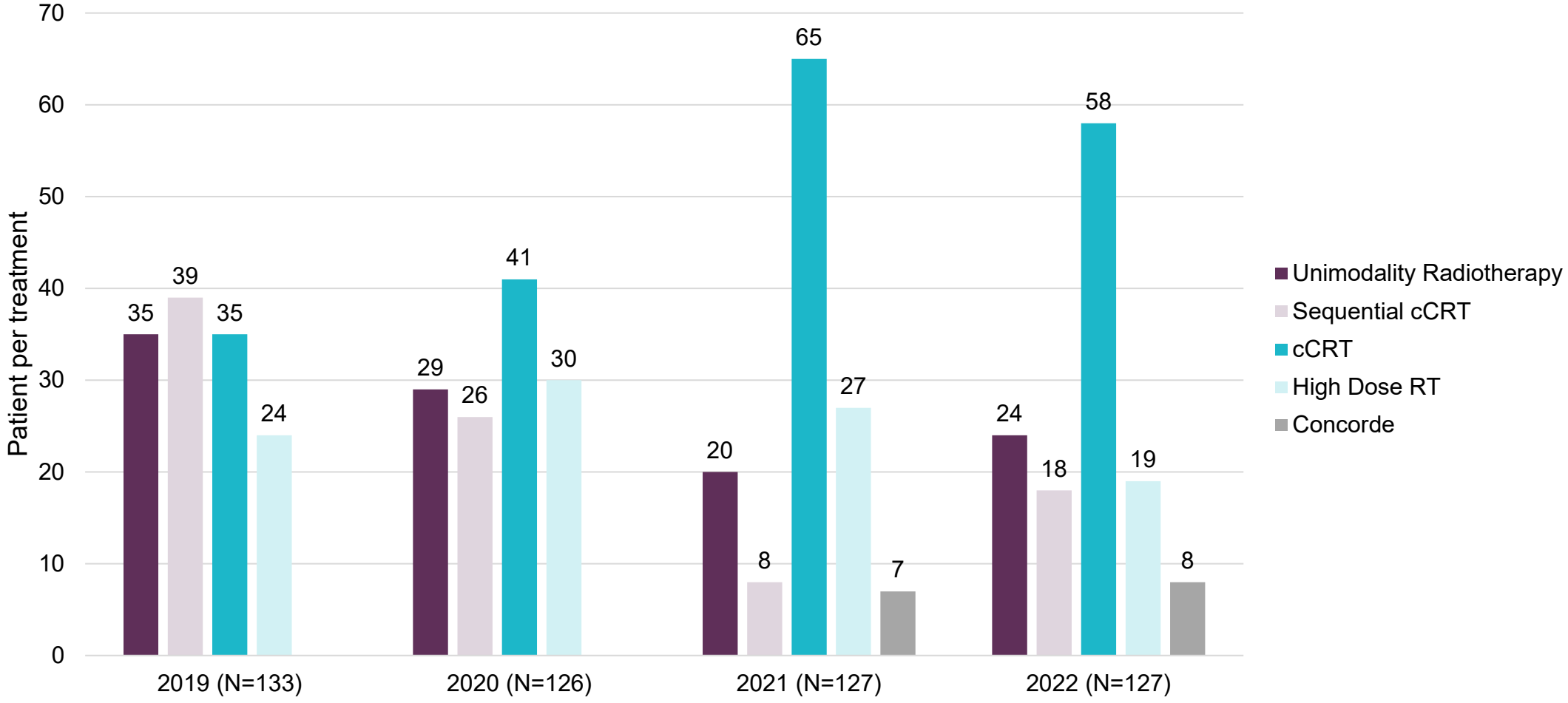


Chemo, chemotherapy; IO, immunotherapy; MDT, multidisciplinary team.

Speaker's clinical expertise.

Do we still feel the need for a Stage III MDT/discussion?

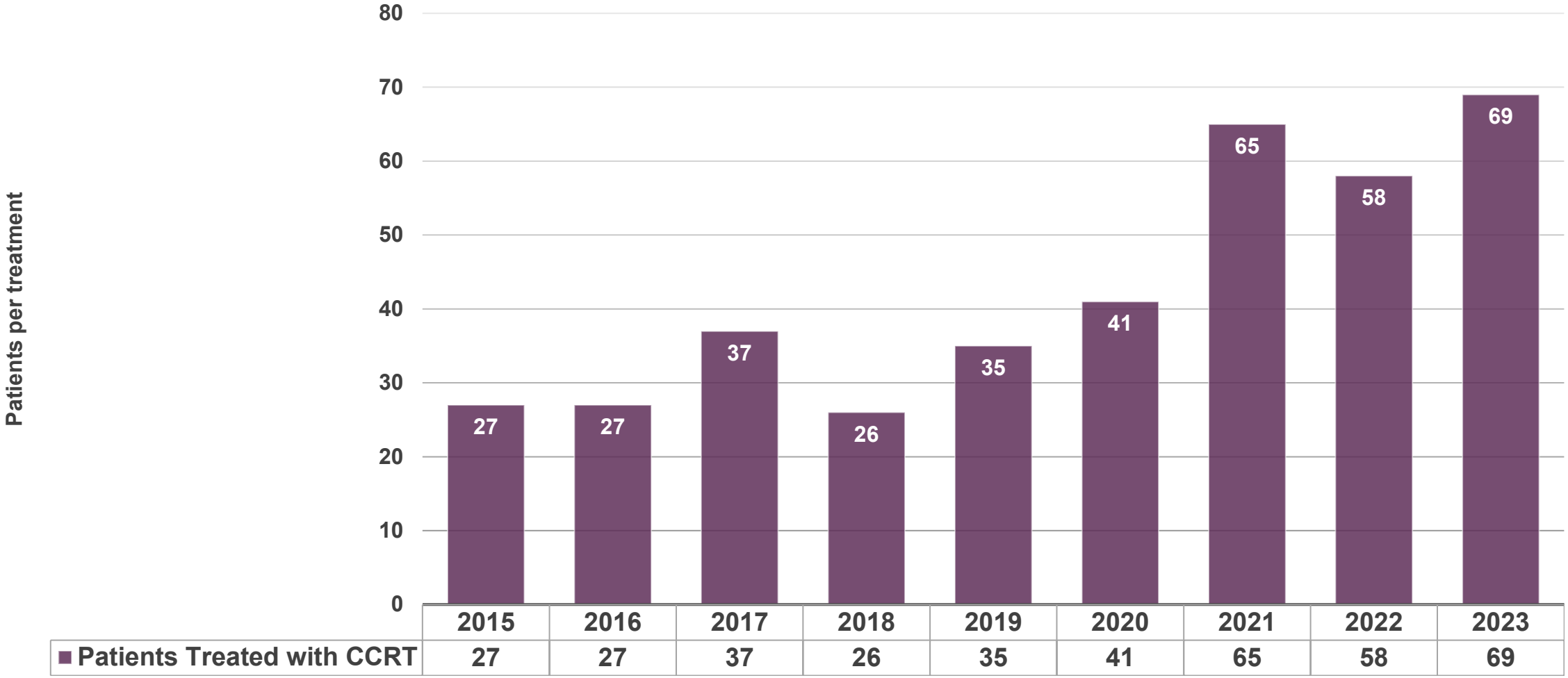
MDT Impact: > Optimal RT



cCRT, concurrent chemoradiotherapy; MDT, multidisciplinary team; RT, radiotherapy.

Data provided courtesy of speaker.

cCRT annual activity



cCRT, concurrent chemoradiotherapy.

Data provided courtesy of speaker.

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Case study

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Case review – Surgical input

- **T4N0M0 squamous cell carcinoma of RT hilum (PD-L1- 80%)**
- **cCRT (55Gy/20#), cis/vin April 2020**
- **Completed adjuvant durvalumab▼, April 2021**
- **October 2022: FDG avid RT paratracheal LN metastasis (disease recurrence), no FDG positive local tumour recurrence (RT perihilar post-RT changes)**
- **Discussed Stage III MDT, Dec 2022 – aim for cCRT aware of reirradiation, need to see OAR tolerances**

cCRT, concurrent chemoradiotherapy; cis, cisplatin; FDG, fluorodeoxyglucose; LN, lymph node; MDT, multidisciplinary team; OAR, organs at risk; PD-L1, programmed death ligand-1; RT, right; vin, vinorelbine.

Data provided courtesy of speaker.

IMFINZI™ ▼(durvalumab) therapeutic indication in NSCLC[1,2]:

IMFINZI as monotherapy is indicated:

- For the treatment of locally advanced, unresectable NSCLC in adults whose tumours express PD-L1 on ≥1% of tumour cells and whose disease has not progressed following platinum-based chemoradiation therapy

IMFINZI safety summary

- The safety profile of IMFINZI as monotherapy is based on pooled data in 3006 patients across multiple tumour types. IMFINZI was administered at a dose of 10 mg/kg every 2 weeks or 20 mg/kg every 4 weeks

IMFINZI dosing

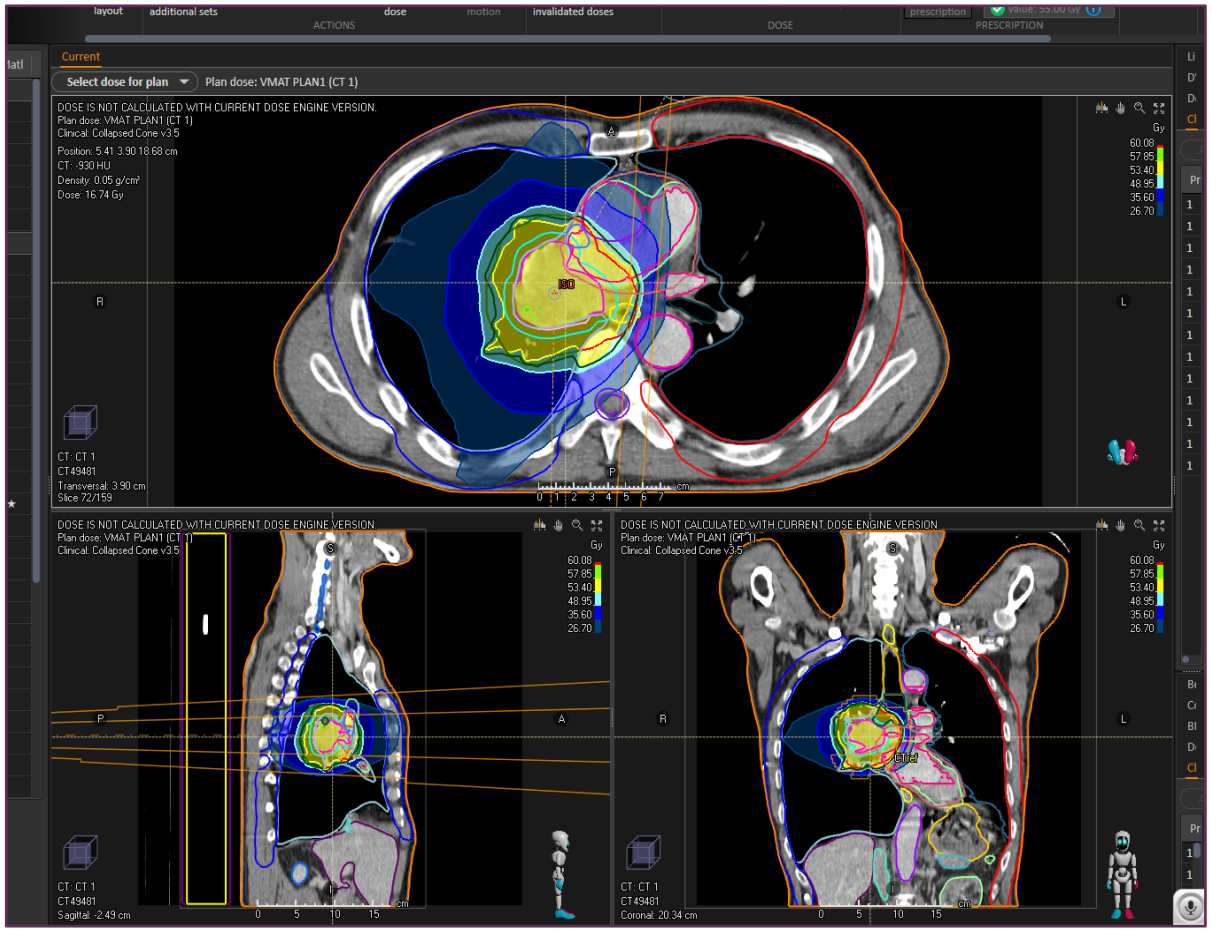
- In this indication, IMFINZI is recommended at a dose of 10 mg/kg every 2 weeks or 1500 mg every 4 weeks

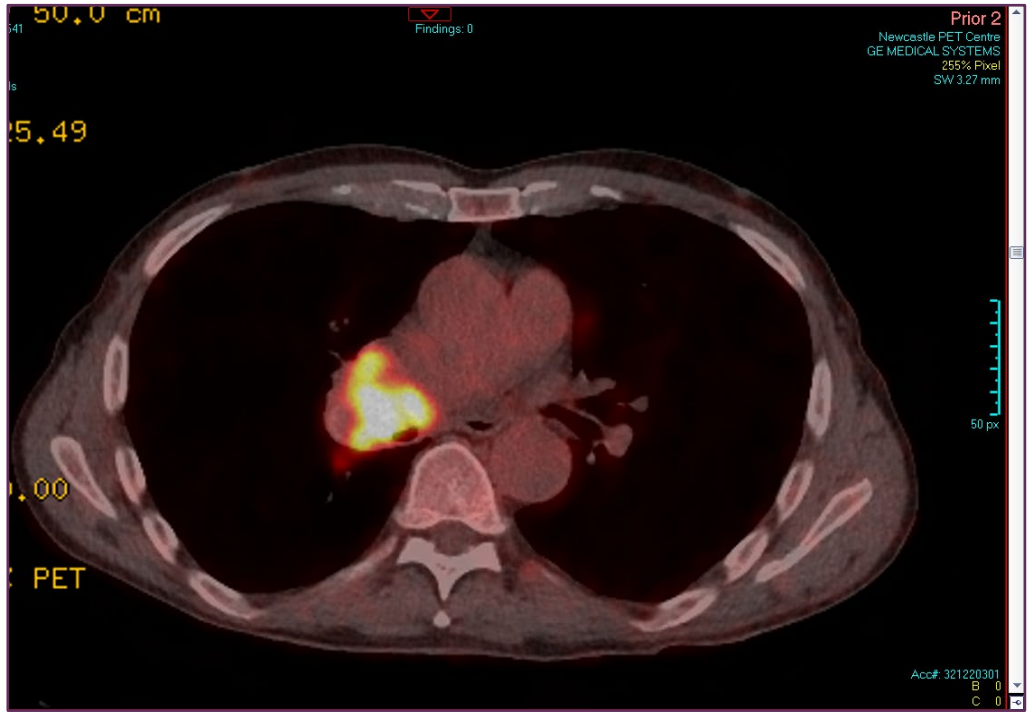
Most frequent (>10%) adverse reactions for IMFINZI monotherapy

Cough/productive cough	21.5%
Diarrhoea	16.3%
Rash	16.2%
Pyrexia	13.8%
URTI	13.5%
Abdominal pain	12.7%
Pruritus	10.8%
Hypothyroidism	10.1%

NSCLC, non-small cell lung cancer; PD-L1, programmed cell death ligand-1; URTI, upper respiratory tract infection.

1. EMC. IMFINZI SmPC. Available at: https://www.medicines.org.uk/emc/product/9495 (Accessed July 2024); 2. EMC Northern Ireland. IMFINZI SmPC. Available at: https://www.emcmedicines.com/en-gb/northernireland/medicine?id=ebfb0ef2-3f0b-4d5d-8e7b-353a0176b147&type=smpc (Accessed July 2024).





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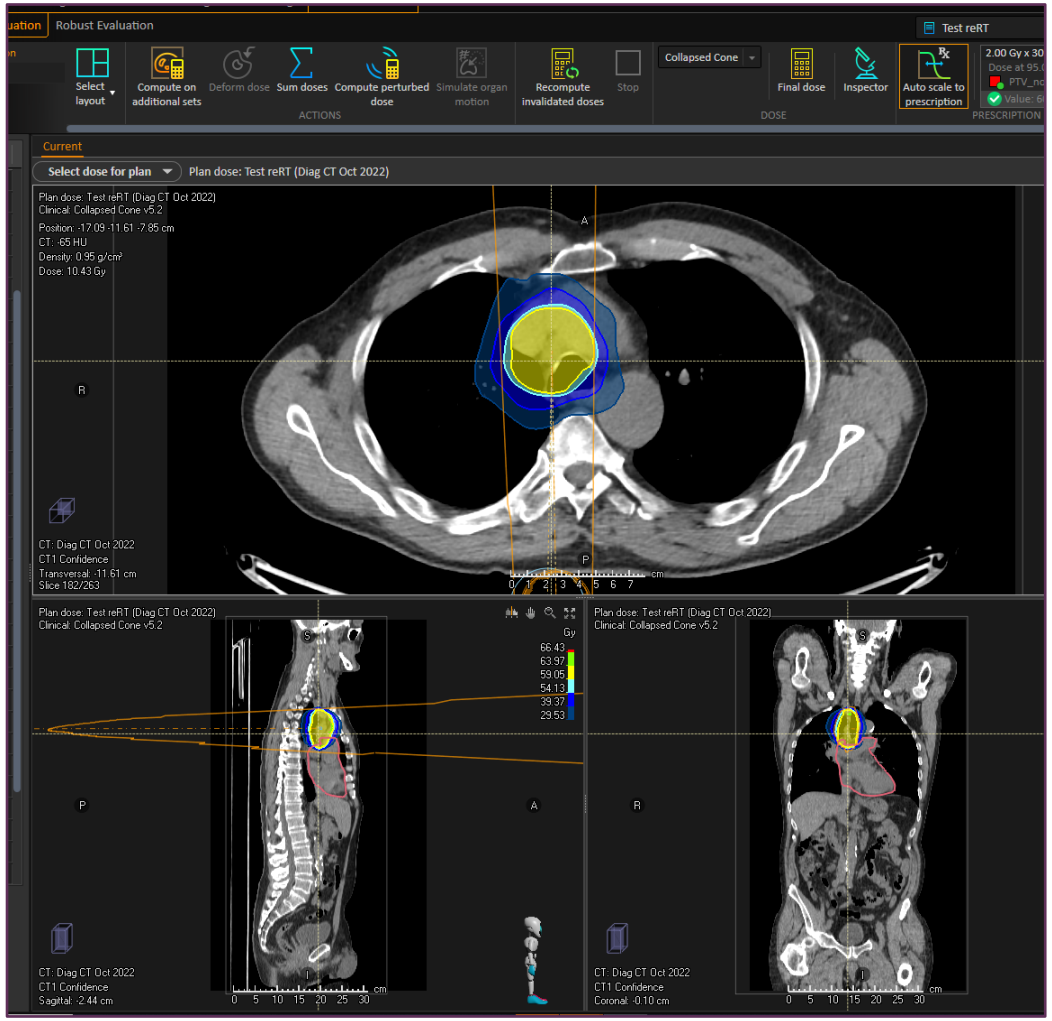
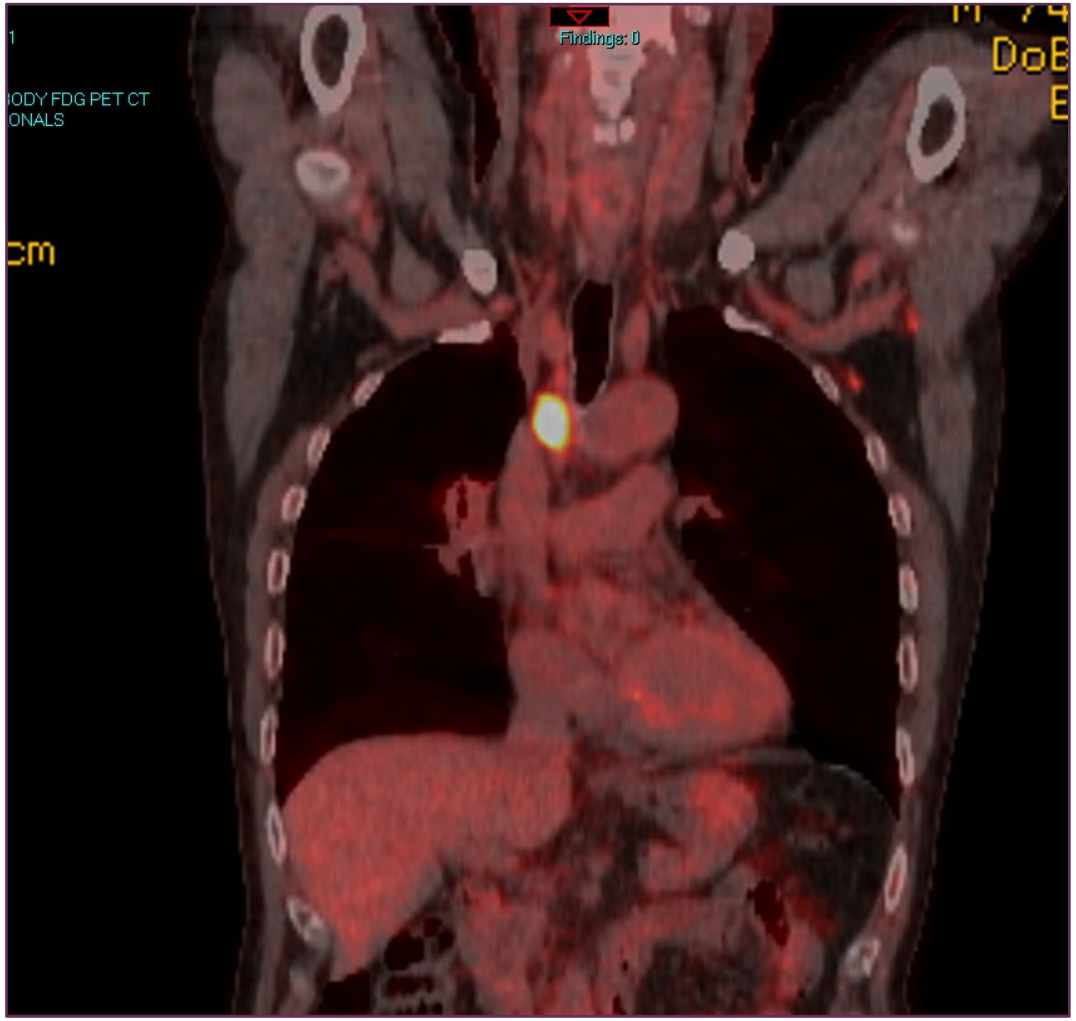
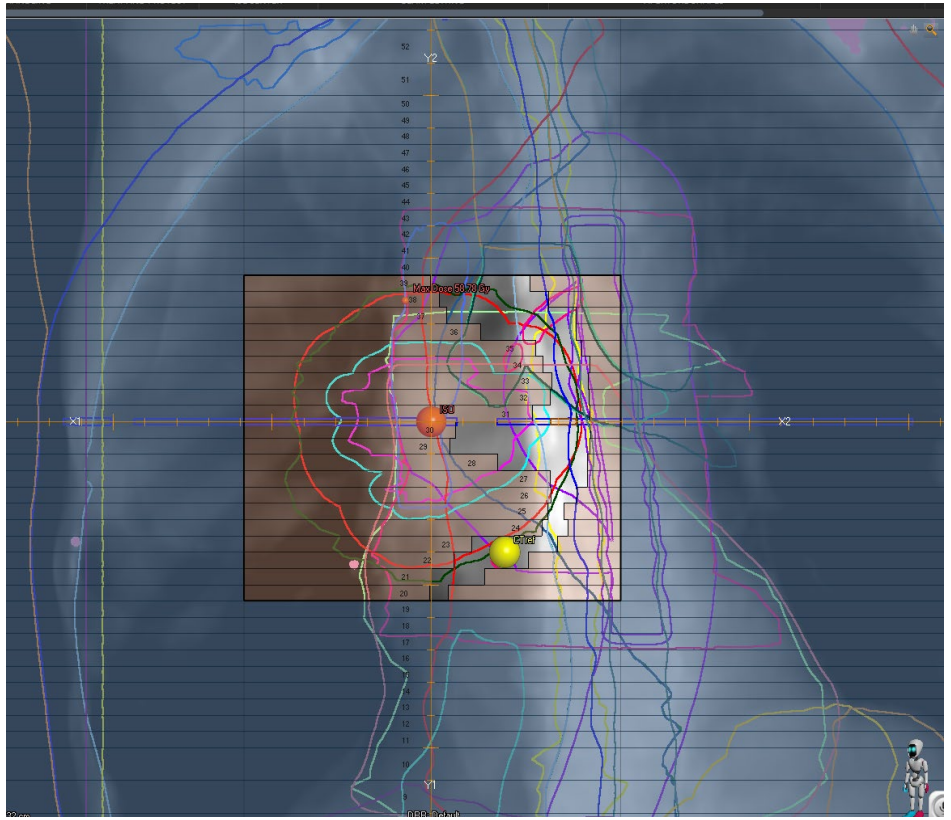




Images provided courtesy of speaker.

Could not achieve a meaningful dose, due to overlap with previous RT field[1,2]

- **Rediscussed Stage III meeting – PS 0**
- **Surgery potential option?**
- **Right robotic paratracheal lymphadenopathy, Jan 2023**



PS, performance status; RT, radiotherapy.

1. Speaker's clinical expertise; 2. Image provided courtesy of speaker.

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Stage III MDT is a single part of the service improvement within the Lung RT service

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Thank you

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Case studies

Please note, the following slides were not presented at the meeting but have been included for your reference.

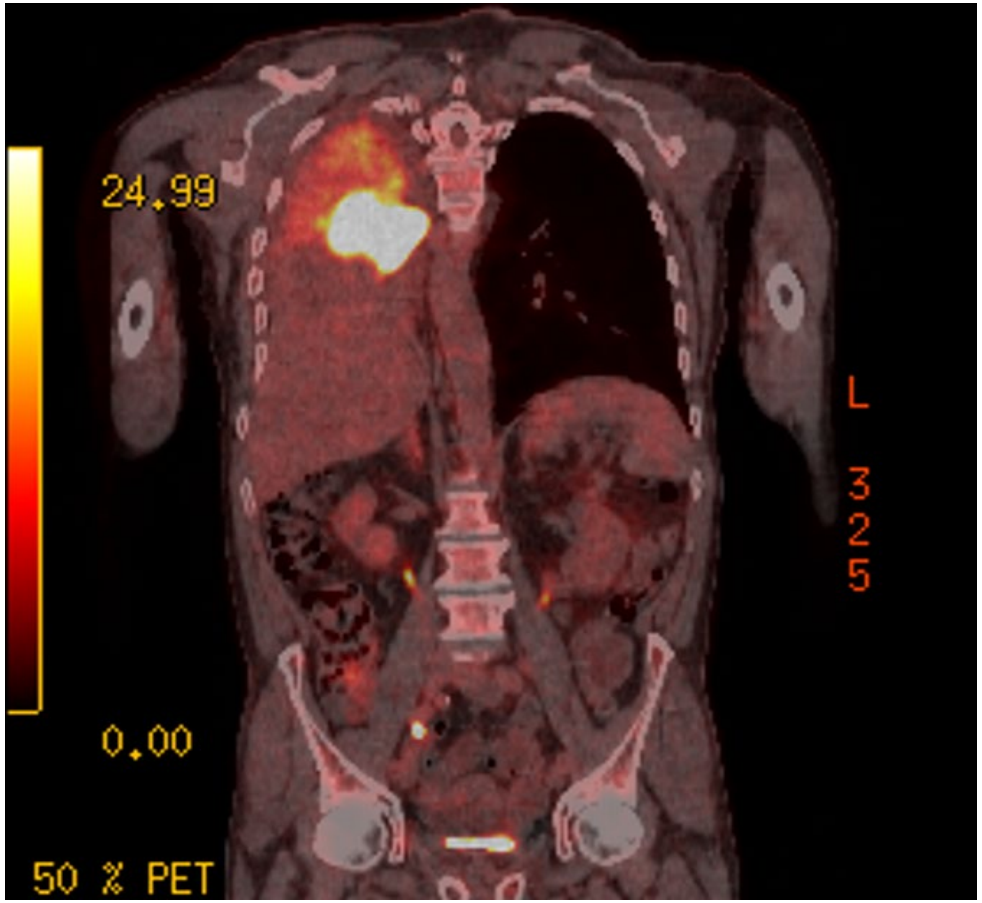
Case study 1

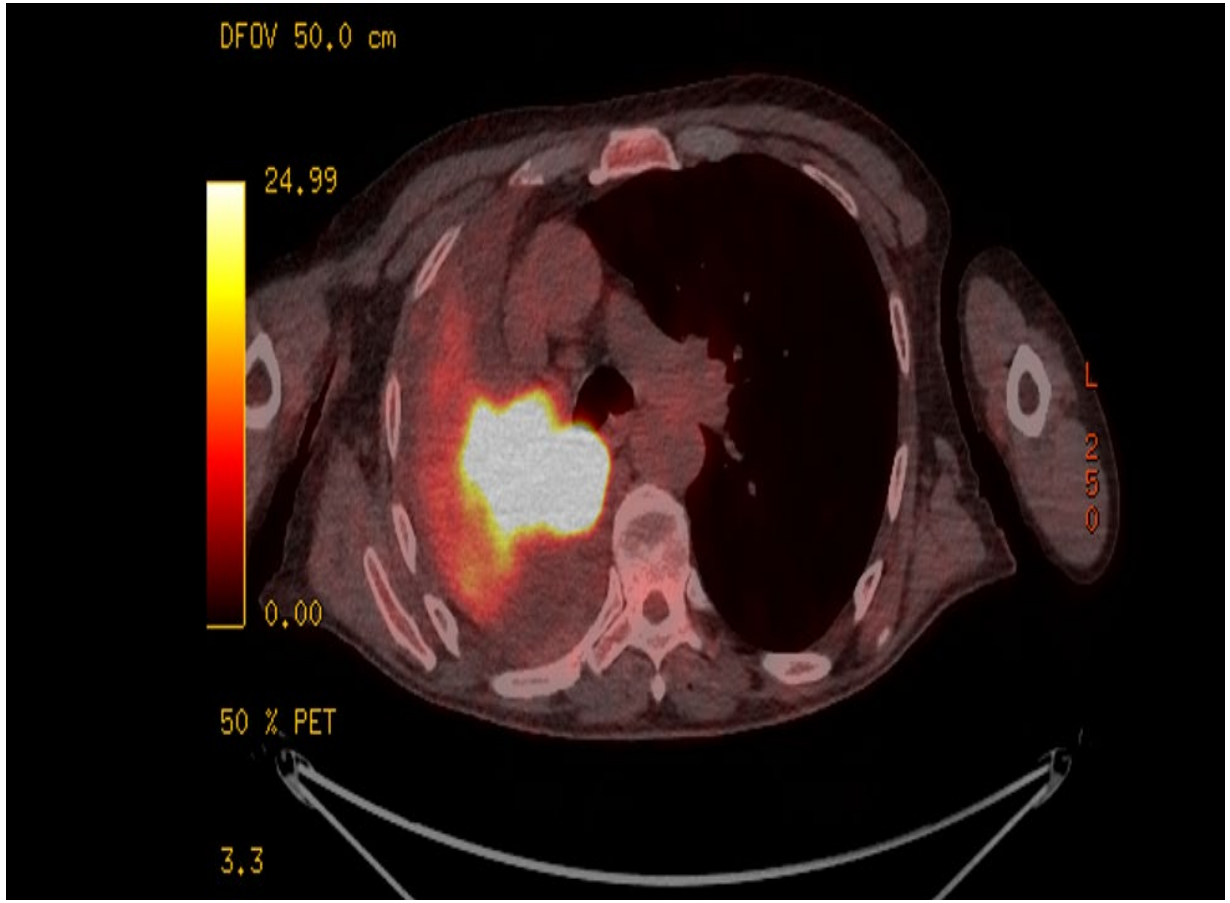
- Male – 63 years old. Squamous cell carcinoma T4, N0, M0 (Stage IIIA)
- Associated total occlusion of right main bronchus and collapse of right lung, small right-sided pleural effusion with negative cytology no obvious pleural uptake on PET. Pulmonary function awaited. PD-L1 60%
- Asthma, eczema, COPD, 3 stone weight loss (Over 3 months)
- Discussion at peripheral lung MDT and further discussion at central Stage III meeting, technical & clinical complexity
- TLCO 60%, FEV1 1.98 (60% predicted)
- PS 1/2

COPD, chronic obstructive pulmonary disease; FEV1, Forced expiratory volume in first second; MDT, multidisciplinary team; PET, positron emission tomography; PD-L1, programmed death ligand-1; PS, performance status; TLCO, transfer factor for carbon monoxide.

Data provided courtesy of speaker.

PET: Squamous cell T4N0M0 – total occlusion/collapse of RT lung

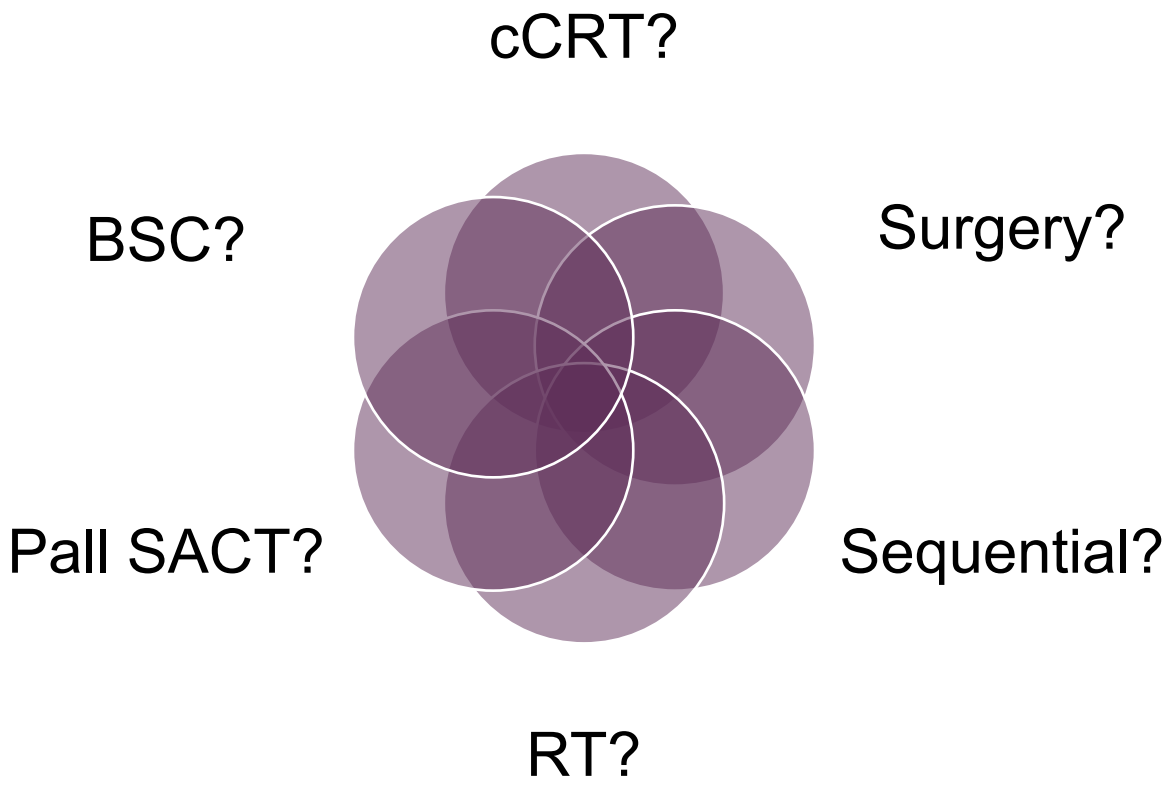




PET, positron emission tomography; RT, right.

Images provided courtesy of speaker.

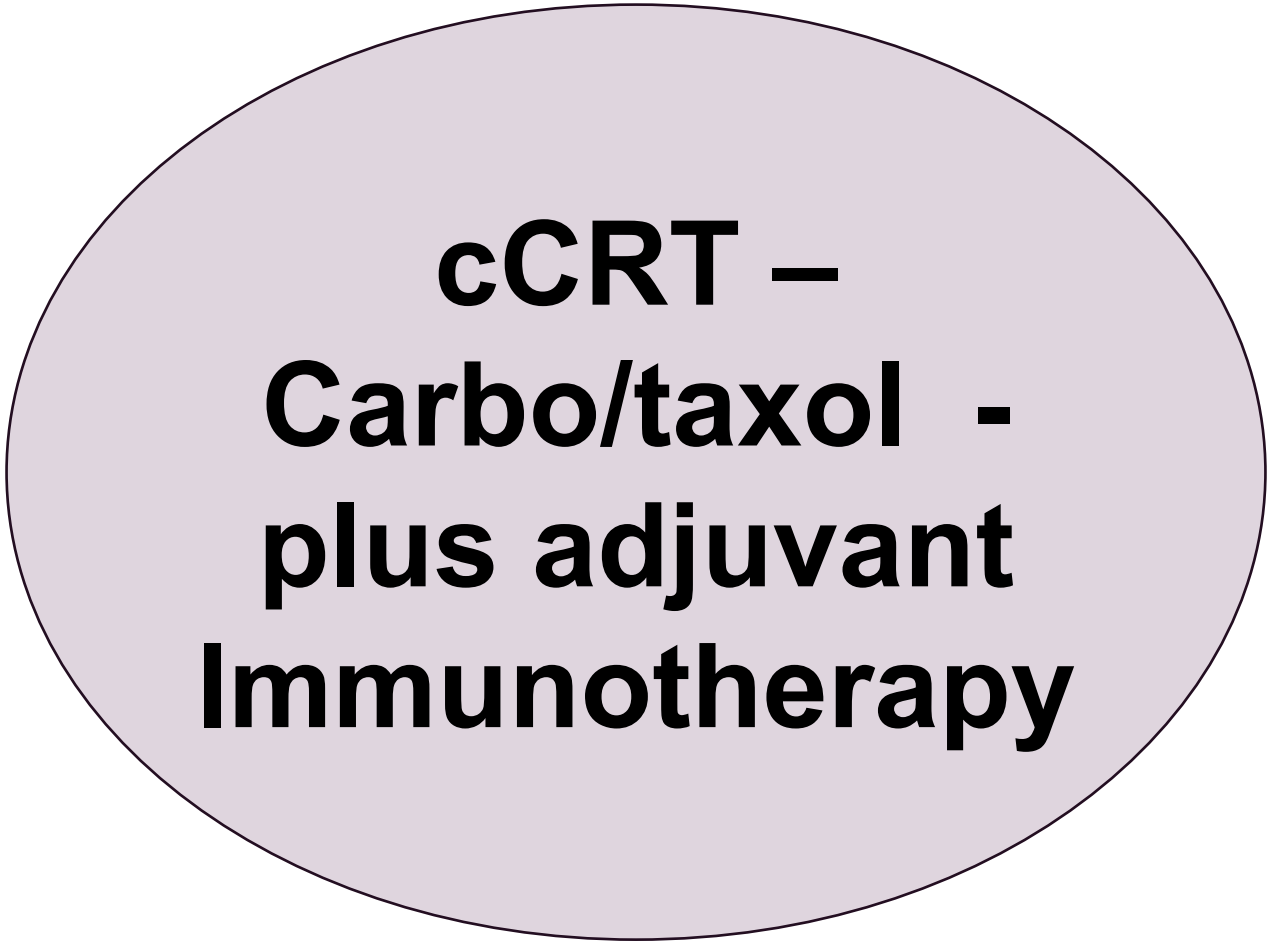
Management?



BSC, best supportive care; cCRT, concurrent chemoradiotherapy; RT, radiotherapy, Pall SACT, Palliative systemic anti-cancer therapy.

Speaker's clinical expertise.

Treatment Decision



Carbo/taxol, carboplatin and paclitaxel; cCRT, concurrent chemoradiotherapy.

Speaker's clinical expertise.

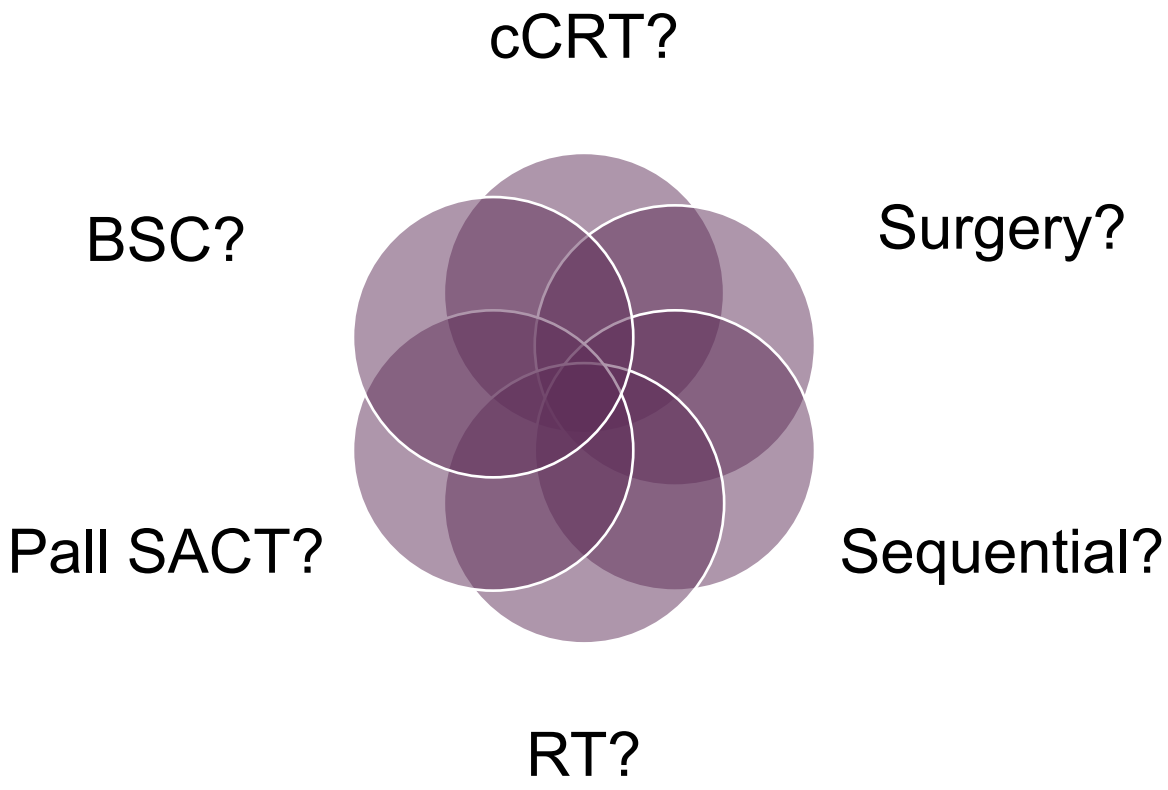
Case study 2

- Male – 76 Year old. Squamous cell carcinoma T4, N0, M0 (Stage IIIA)
- Associated total occlusion of right main bronchus and collapse of right lung, small right-sided pleural effusion with negative cytology no obvious pleural uptake on PET. Pulmonary function awaited. PD-L1 60%
- Asthma, eczema, COPD, 3 stone weight loss (Over 3 months)
- Discussion at peripheral lung MDT and further discussion at central Stage III meeting, technical & clinical complexity
- TLCO 50%, FEV 1 1.98 (60% predicted)
- PS 1

COPD, chronic obstructive pulmonary disease; FEV 1, forced expiratory value in 1 second; MDT, multidisciplinary team; PET, positron emission tomography; PD L1, programmed death ligand 1; PS, performance status.

Speaker's clinical expertise.

Management?

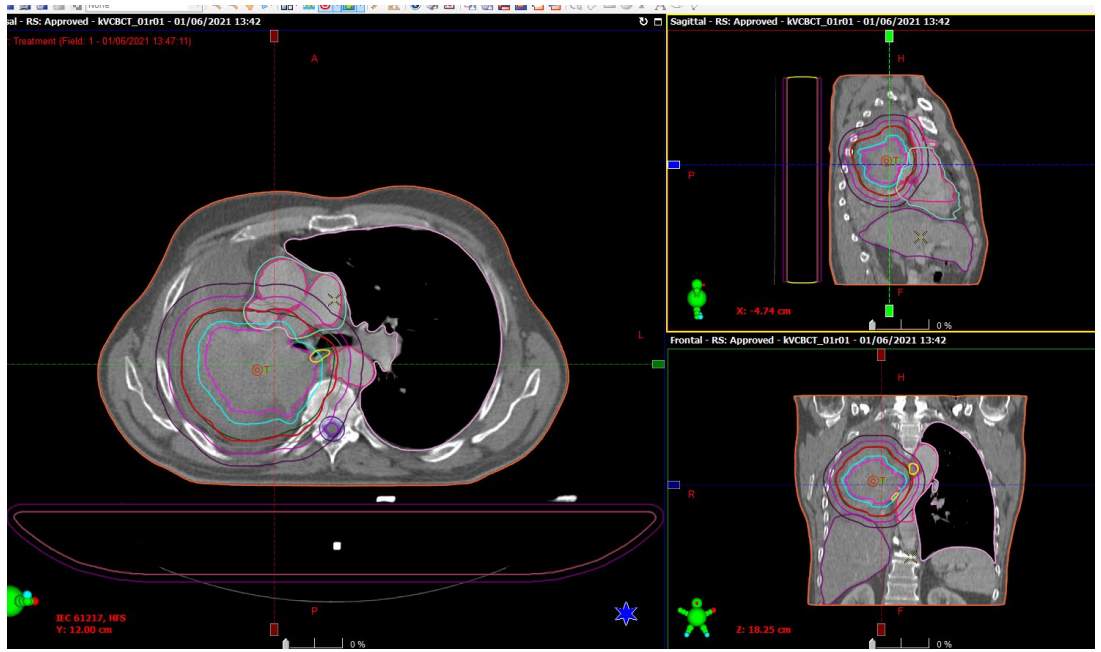


BSC, best supportive care; cCRT, concurrent chemoradiotherapy; RT, radiotherapy, Pall SACT, Palliative systemic anti-cancer therapy.

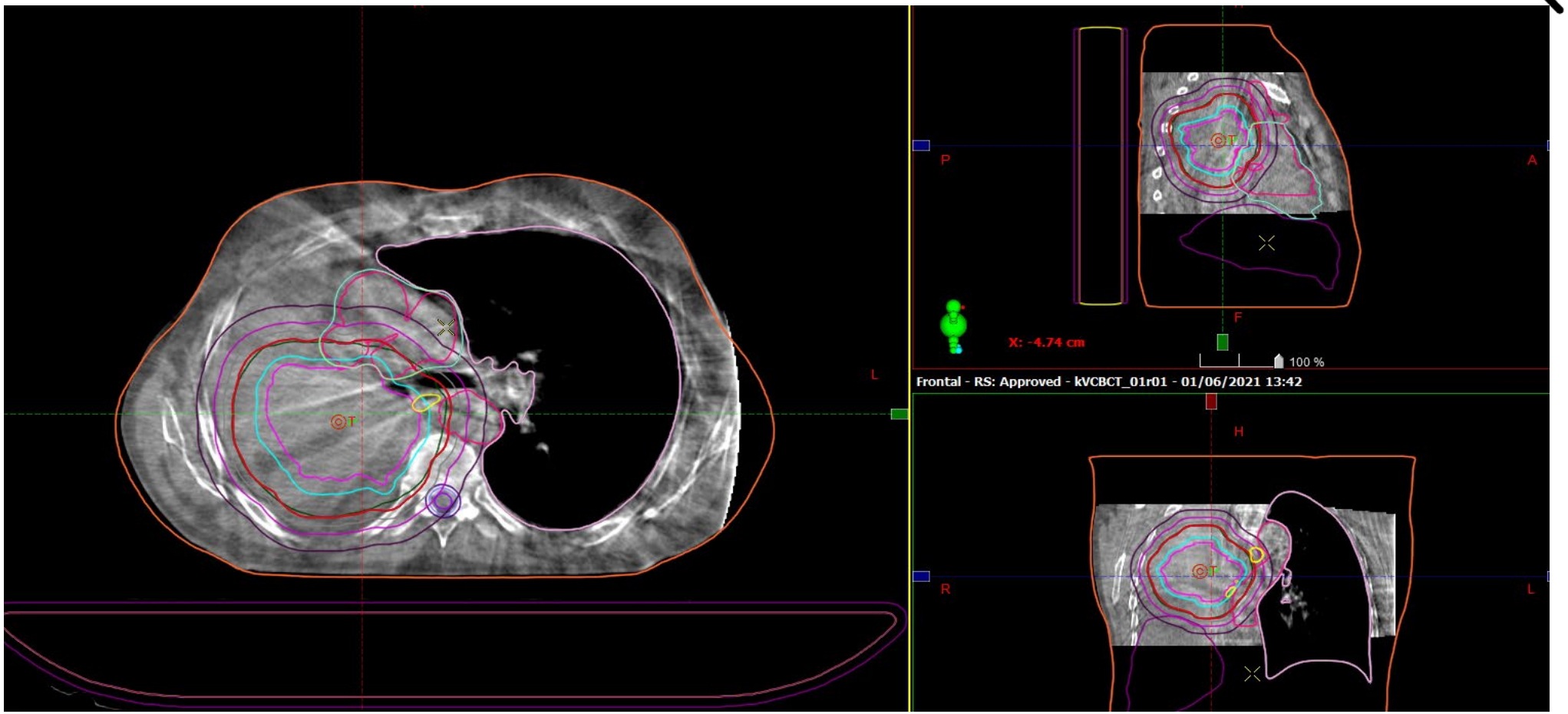
Speaker's clinical expertise.

Prio	R O I	Clinical goal	Value	Fulfilled	% outside grid
1	HEART	At most 33.00 % volume at 60.00 Gy dose	0.22 %	Yes	0 %
1	HEART	At most 67.00 % volume at 45.00 Gy dose	9.16 %	Yes	0 %
1	PTV_60	At least 54.00 Gy dose at 99.00 % volume	55.70 Gy	Yes	0 %
1	PTV_60	At most 63.00 Gy dose at 1.00 % volume	61.98 Gy	Yes	0 %
1	PTV_60	At least 59.40 Gy dose at 50.00 % volume	60.00 Gy	Yes	0 %
1	PTV_60	At most 60.60 Gy dose at 50.00 % volume	60.00 Gy	Yes	0 %
1	CTV_60	At least 57.00 Gy dose at 99.00 % volume	58.96 Gy	Yes	0 %
1	SPINAL_CORD_PRV	At most 50.50 Gy dose at 0.50 cm³ volume	36.34 Gy	Yes	0 %
1	SPINAL_CORD	At most 50.50 Gy dose at 0.50 cm³ volume	32.43 Gy	Yes	0 %
1	LUNGS-CTV	At most 37.00 % volume at 20.00 Gy dose	2.32 %	Yes	0 %
1	OESOPHAGUS	At most 0.50 cm³ volume at 63.00 Gy dose	0.00 cm³	Yes	0 %
1	LUNGS-GTV	At most 20.00 Gy average dose	4.52 Gy	Yes	0 %
2	LUNG_CONTRA	At most 70.00 % volume at 5.00 Gy dose	30.54 %	Yes	0 %
2	OESOPHAGUS	At most 34.00 Gy average dose	21.14 Gy	Yes	0 %
2	LUNGS-PTV	At most 65.00 % volume at 5.10 Gy dose	29.86 %	Yes	0 %

Evaluated on Beam set Dose



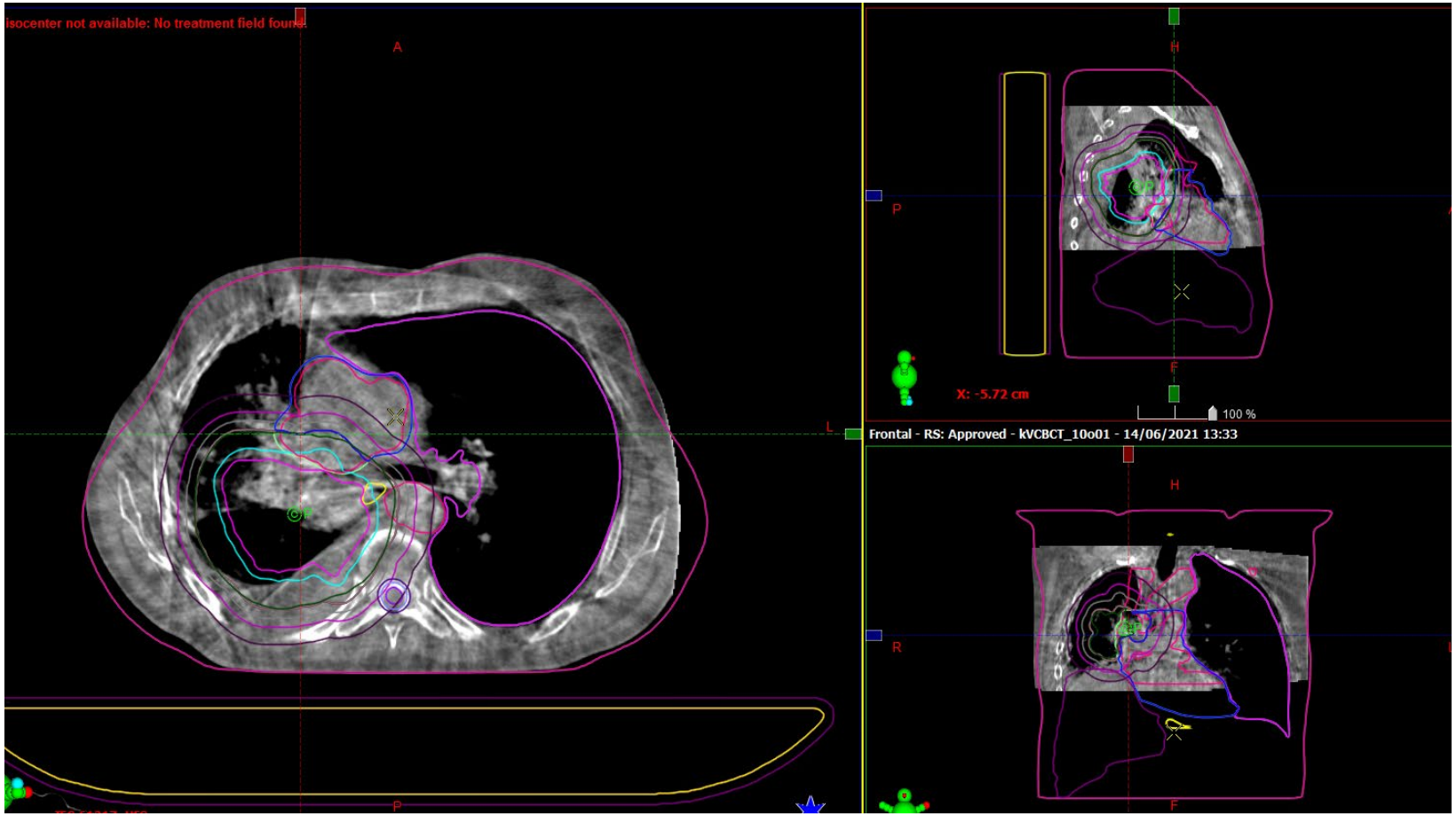
Images provided courtesy of speaker.



#1 KVCB

KVCB, kilovoltage cone beam.

Images provided courtesy of speaker.



- Fraction 8#: Friday-collapse/occlusion
- Fraction 9#: Monday: tumour response & different position

Images provided courtesy of speaker.

How would you manage this patient?

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STOP RT

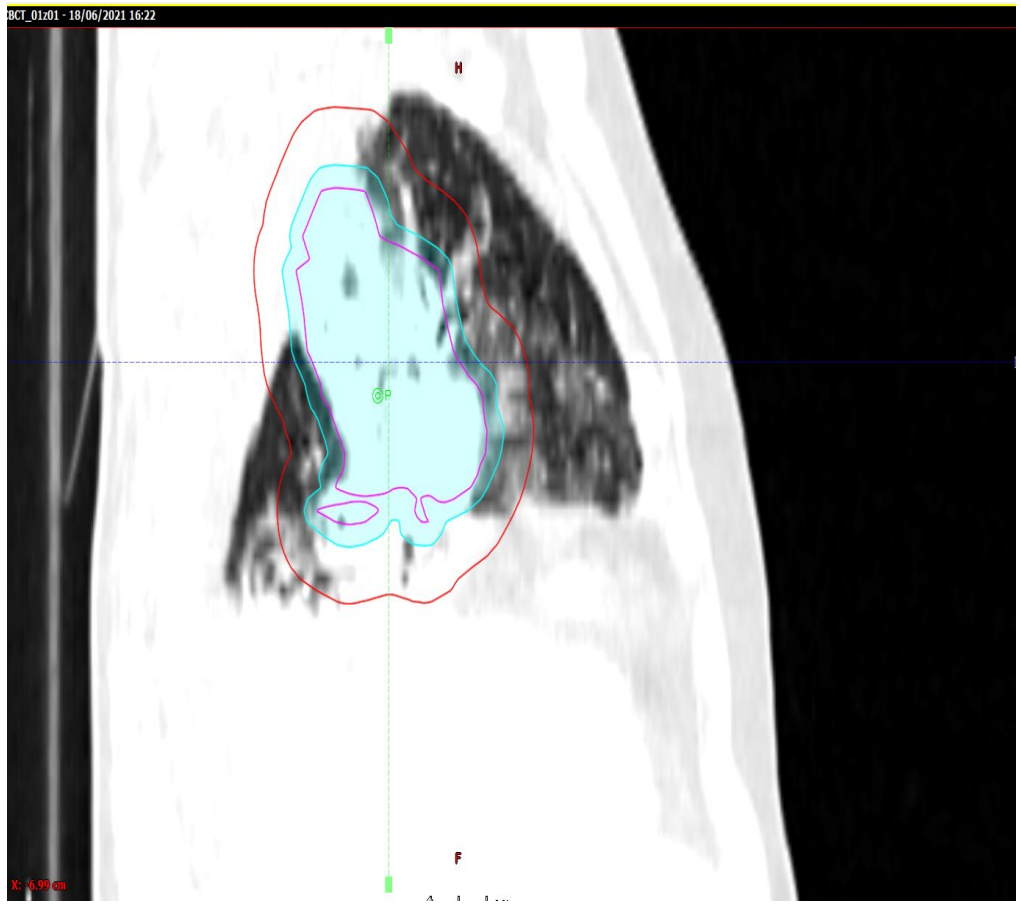
REPLAN

4-day gap

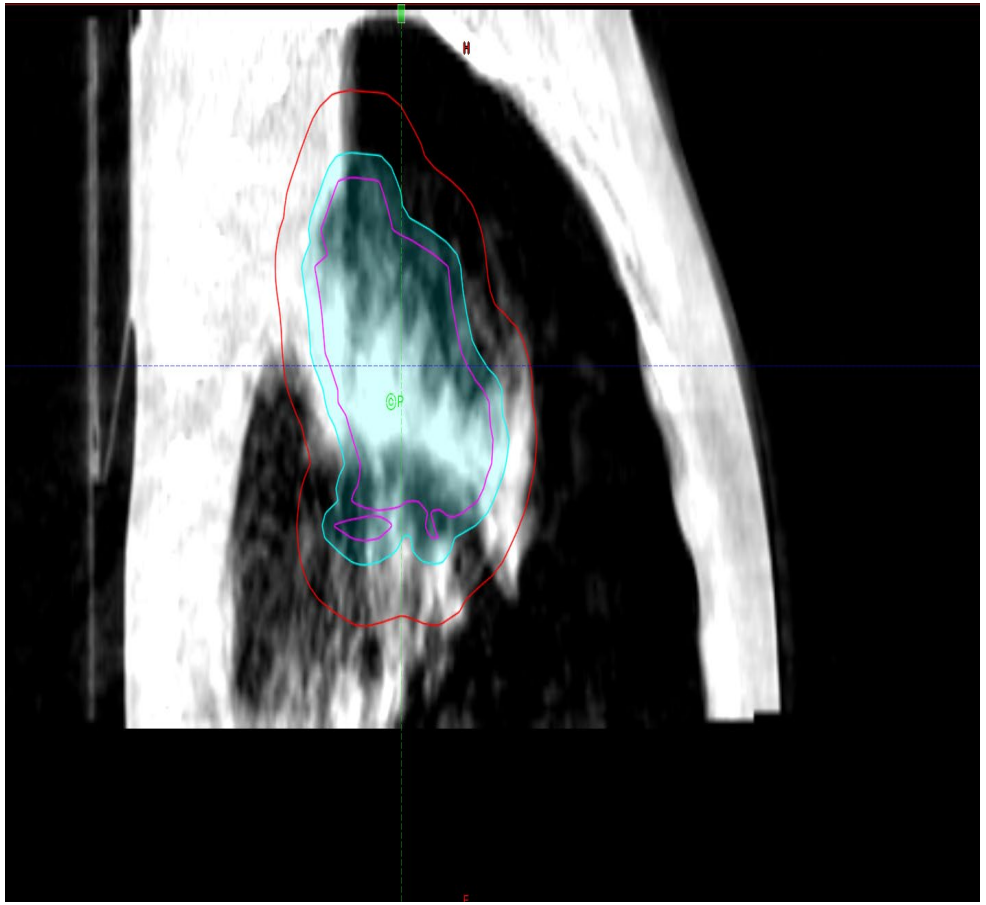
RT, radiotherapy.

Speaker's clinical expertise.

Replan 1:



Replan: CT planning



New replan: KVCB (#9)

CT, computerised tomography; KVCB, kilovoltage cone beam..

Data provided courtesy of speaker.

What would you do now?

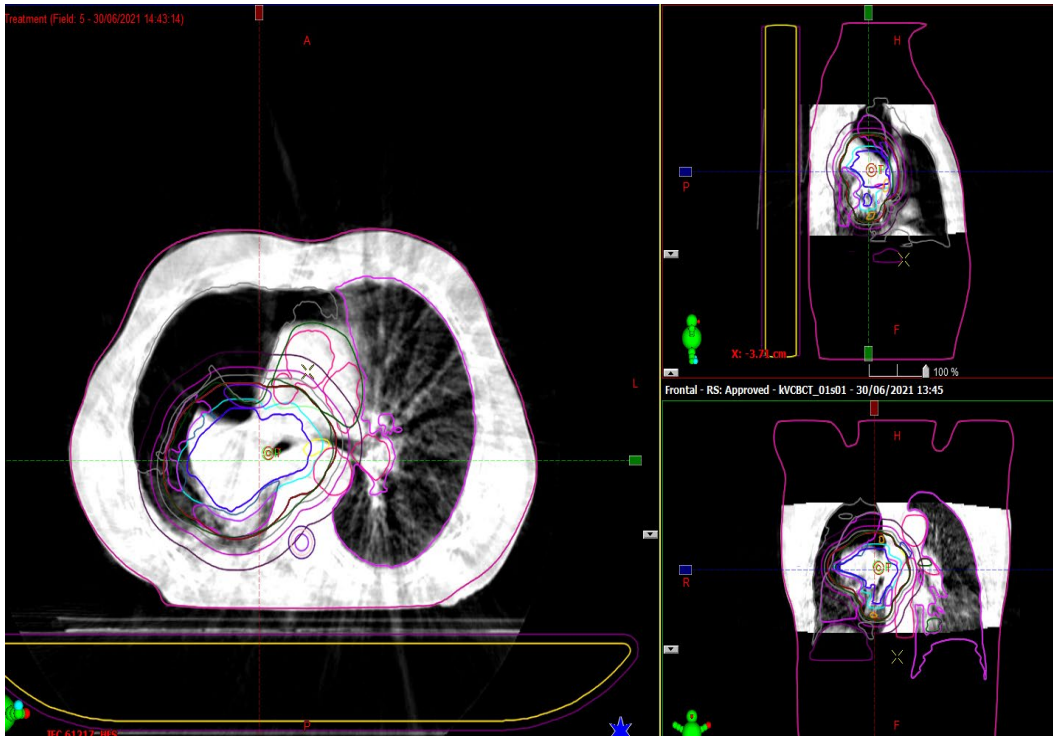
Reviewed by Chest Physician – did not feel chest drain would help → Replan 2 → Total 11-day gap → Radiobiological calculations to compensate – BD catch ups and an additional fraction added – to deliver radio biologically similar dose

- Phase 1: 18gy/ 9#
- Phase 2: 44gy/22#
- Total: 62gy/31#

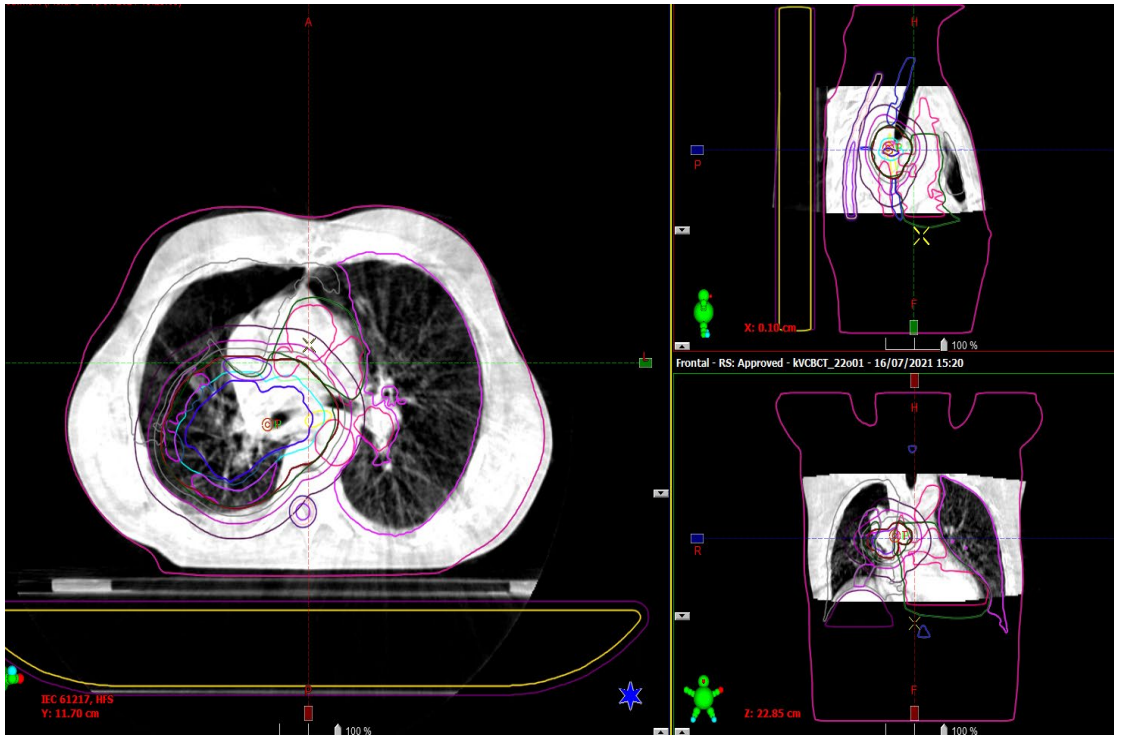
BD, twice a day; gy, gray.

Data provided courtesy of speaker.

Replan 2: Stable – End of treatment: Good response



#9 start of new plan - KVCB



#31 good response - KVCB

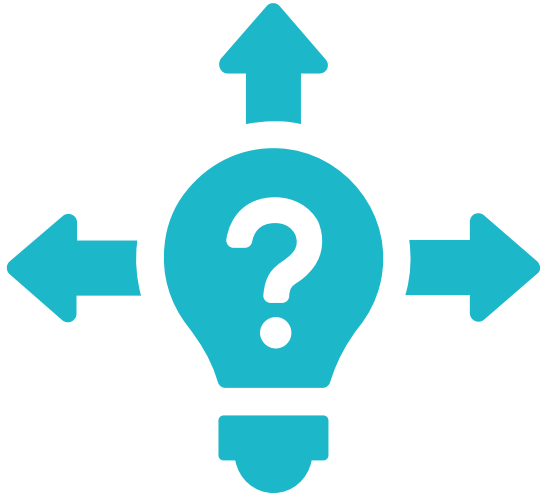
KVCB, kilovoltage cone beam.

Data provided courtesy of speaker.

Uncertainty – What does your department do in this situation?

1. Collapsed lung at diagnosis
2. PET positive nodes, but EBUS negative sample – node close to CTV
3. PET positive nodes, EBUS negative N2 but away from radiotherapy field
4. Collapsed lung at fraction 1
5. Changing lung anatomy during treatment
6. When would you replan?
7. Who would make the decision?

- Solo CCO, Scoped radiographer, Clinical scientist, SPR, Team discussion



CCO, Clinical Consultant Oncologist; CTV, clinical target volume; EBUS, endobronchial ultrasound; PET, positron emission tomography; SPR; Specialist registrar.

Thank you

Prescribing information was available at this meeting, and at the following links:
IMFINZI GB , IMFINZI NI , TAGRISSO (osimertinib) GB , TAGRISSO NI

THINK AGAIN LUNG SUMMIT