

مستشفى الملك فيصل التخصصي ومركز الأبحاث
King Faisal Specialist Hospital & Research Centre
Gen. Org. مؤسسة عامة

الجمعية السعودية للأورام
SAUDI ONCOLOGY SOCIETY

accept the challenge

2016 RADIOTHERAPY PLAN COMPETITION

Be the strongest link in the radiotherapy chain

Knowledge Sharing for Better Quality

Live-Webinar Series

Eclipse TPS

Organizer:

Ahmad Nobah, M.Sc. , DABR

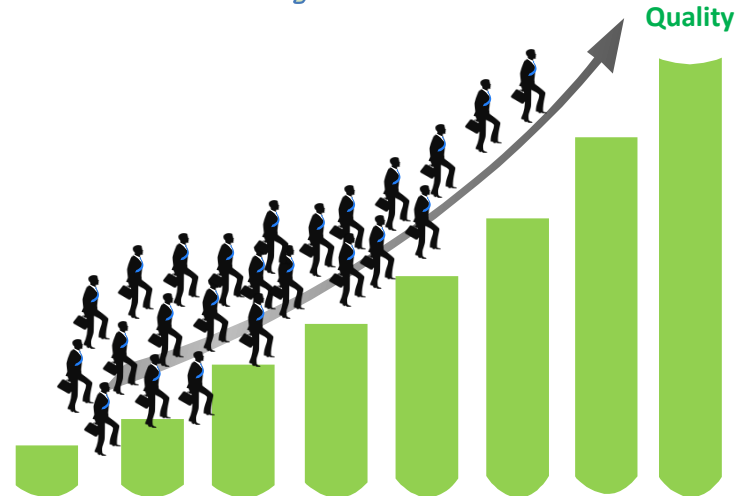
Medical Physicist

Biomedical Physics Department

King Faisal Specialist Hospital & Research Centre

Riyadh, Saudi Arabia

June 2nd, 2016

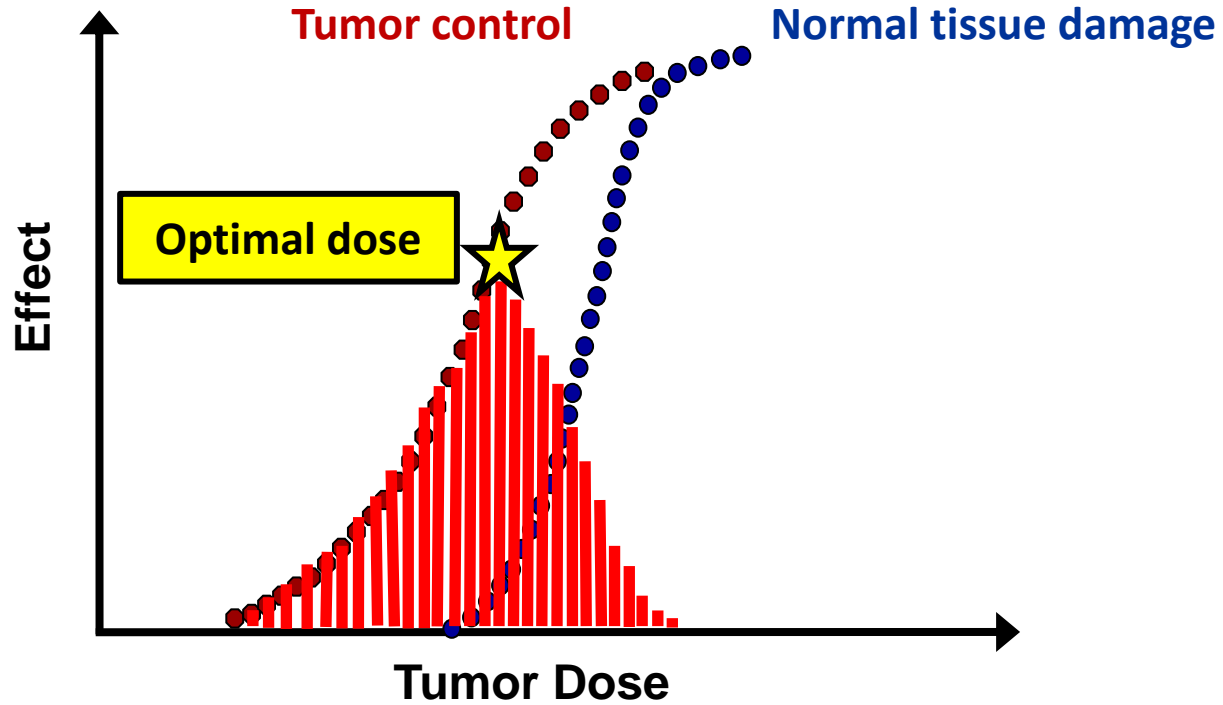


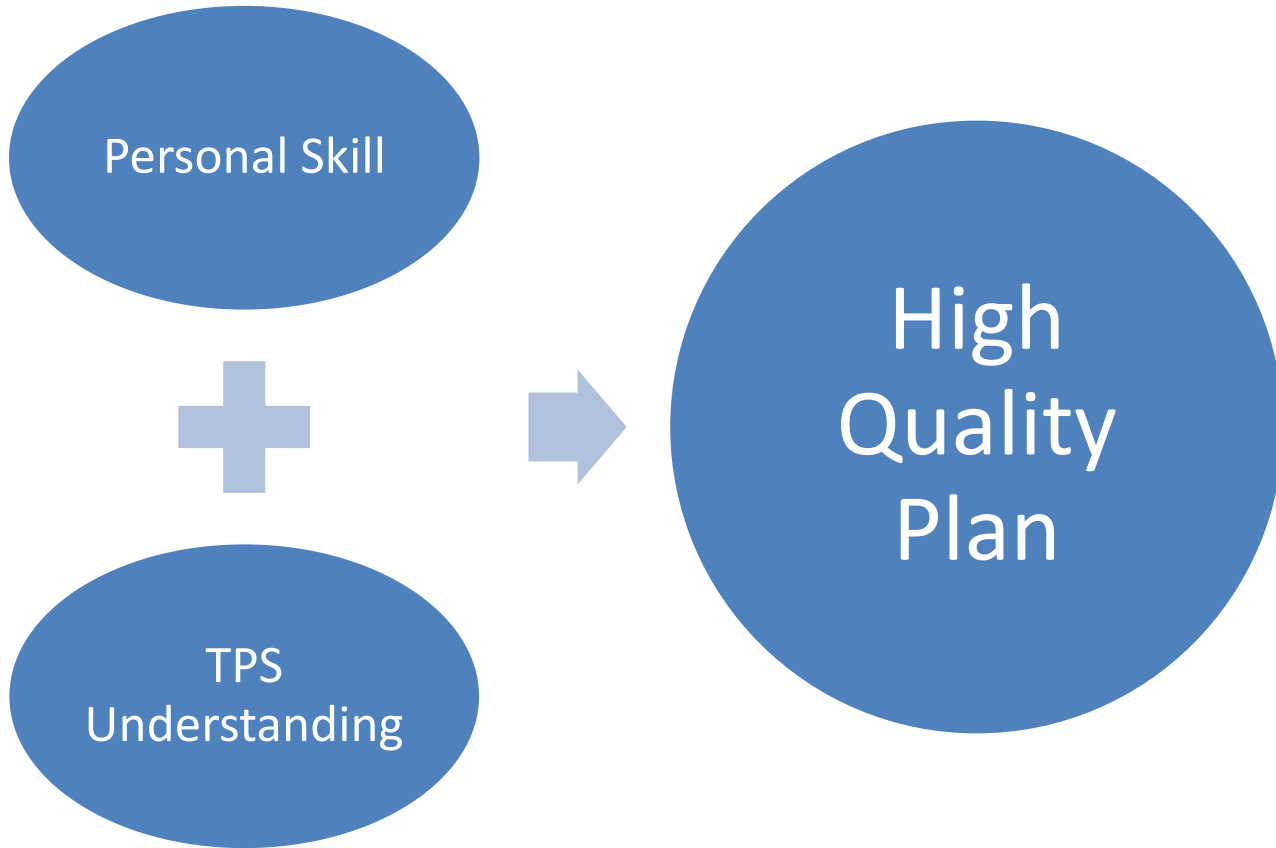


Agenda

- The 2016 plan competition: Ahmad Nobah (15 min)
- RapidArc top Plan: Saad Al-Delaijan (20 min)
- IMRT top Plan: Vanessa & Anthony Magliary (20 min)

The Goal of Radiotherapy ...



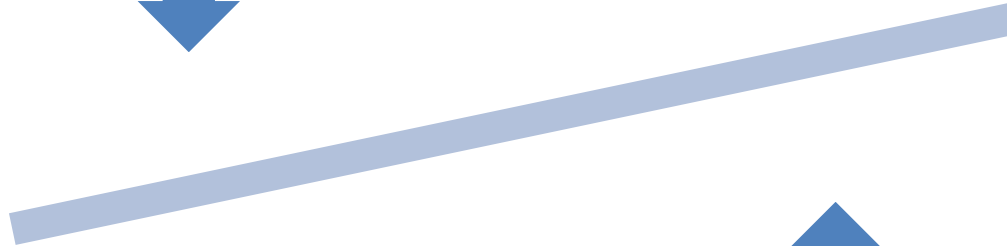


Quality Specifiers

- Dose Conformity
- OAR Sparing



TCP



NTCP



- Dose Homogeneity
- Dose Conformity

In Radiotherapy

*The clinical criteria are 'mostly' achieved
but still the plan quality varies*

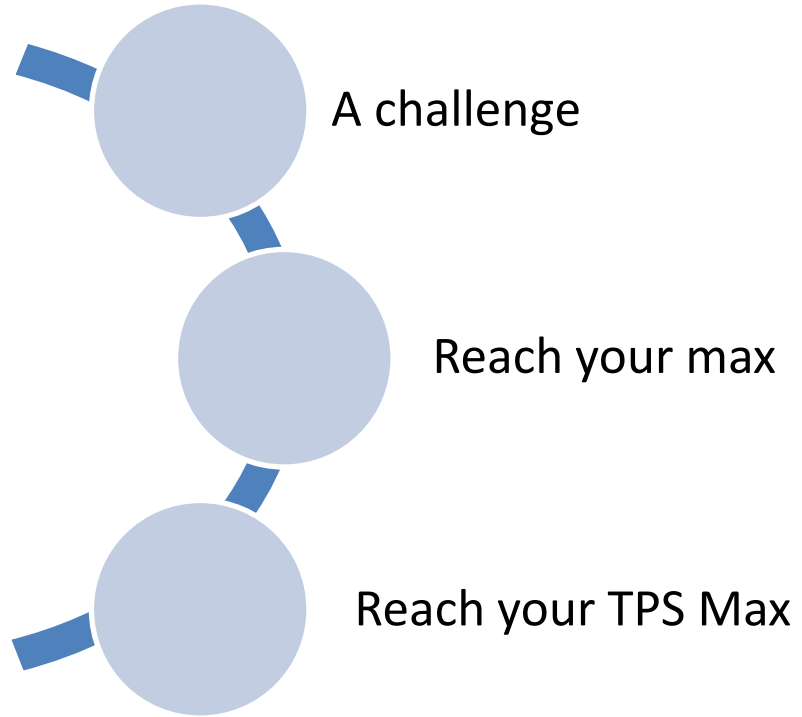
Planners differ in skills, TPS understanding, experience, ... etc

This causes plan quality to differ from planner to the other

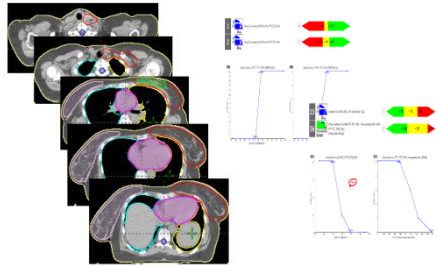
How can unify the quality of plans in a more objective approach?

Is there a way to stimulate planners worldwide to reach the max of their capabilities?

Plan Competition



Plan Competition - Concept



Download

Plan



Select Best Plans

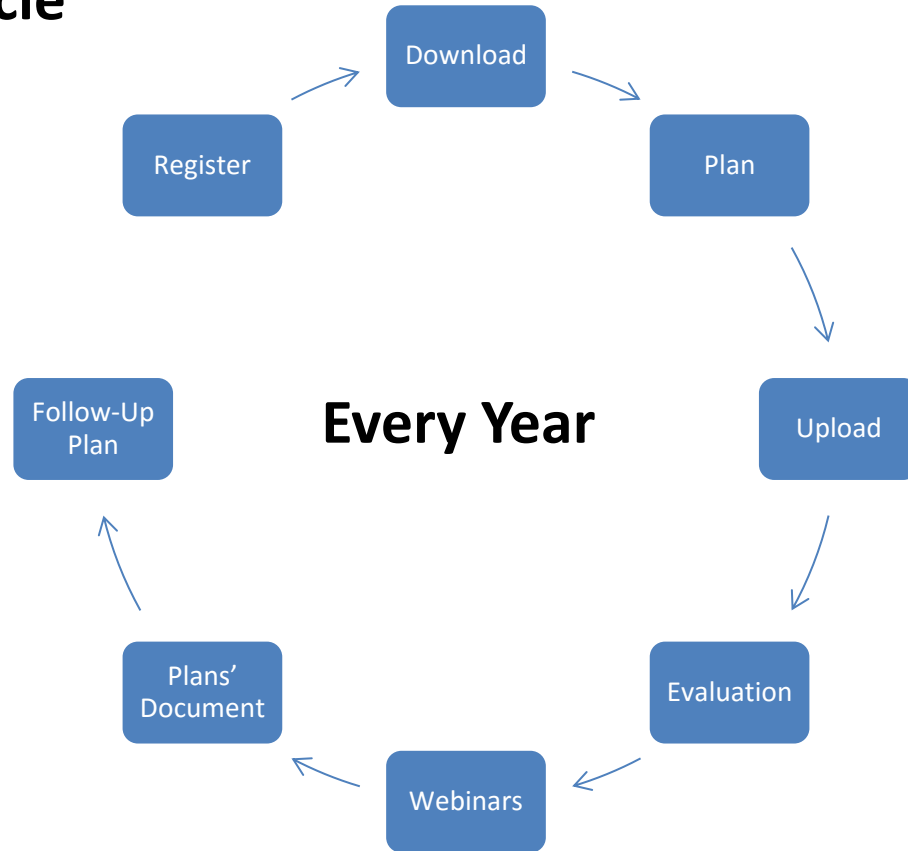


Share Best Plans & Techniques



**Through Live-webinar
and shared documents**

Competition Cycle





The banner features a sagittal cross-section of a human head and neck on the left, with green and red areas indicating radiation dose distribution. In the center, there are two logos: the King Faisal Specialist Hospital & Research Centre logo (a green circle with a palm tree) and the Saudi Oncology Society logo (a globe with 'SOS' text). Below the logos, the text reads 'مستشفى الملك فيصل التخصصي ومركز الأبحاث' and 'King Faisal Specialist Hospital & Research Centre Gen. Org. مؤسسة عامة'. The main title '2016 RADIO THERAPY PLAN COMPETITION' is in large, bold, yellow-green letters. At the bottom, a dark blue bar contains the slogan 'Be the strongest link in the radiotherapy chain' in white. On the right, a yellow pennant-shaped graphic contains the text 'accept the challenge' in black and white.

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SOS
SAUDI ONCOLOGY SOCIETY

**2016 RADIO THERAPY
PLAN COMPETITION**

Be the strongest link in the radiotherapy chain

accept the challenge

The first edition of the Radiotherapy International Plan Competition:

- Statistics
- Case Description & Dosimetric Criteria

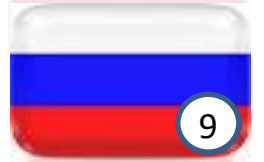
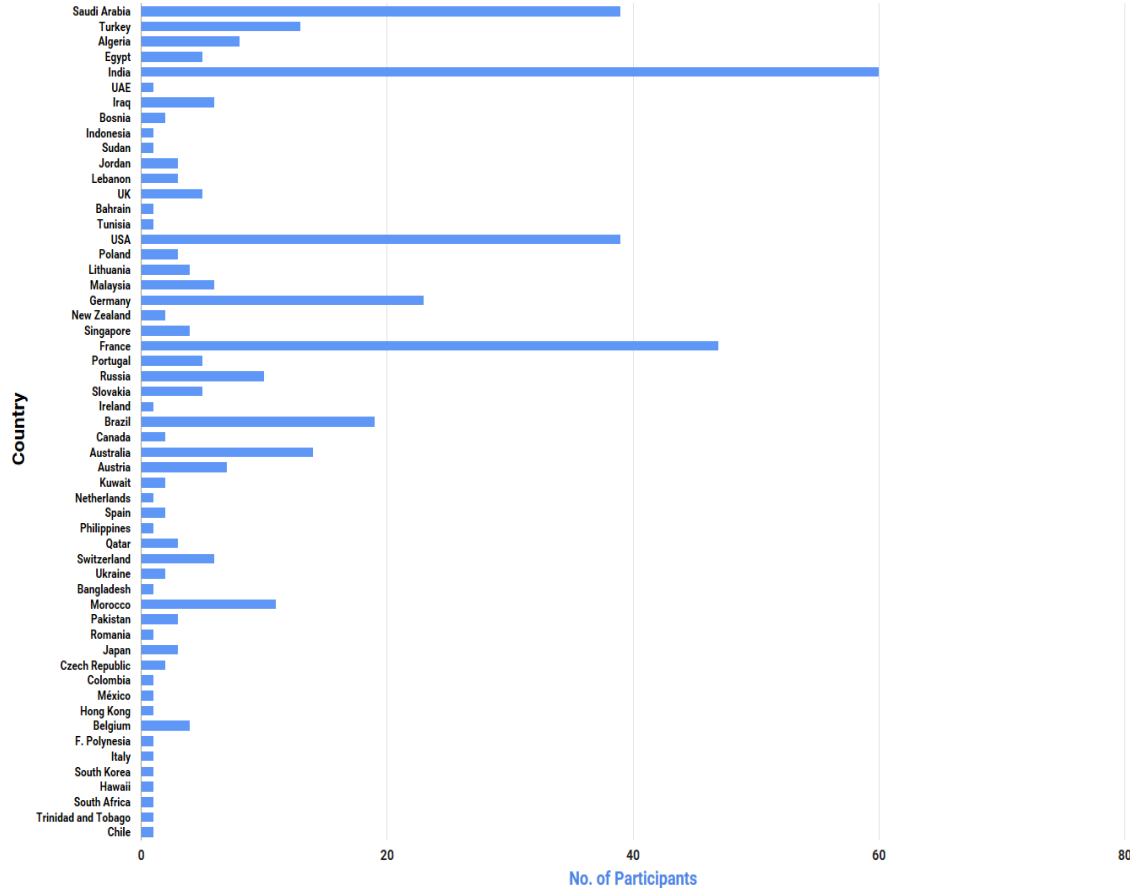


Total Participants ~ 400
From ~ 55 countries
210 Submitted Plans

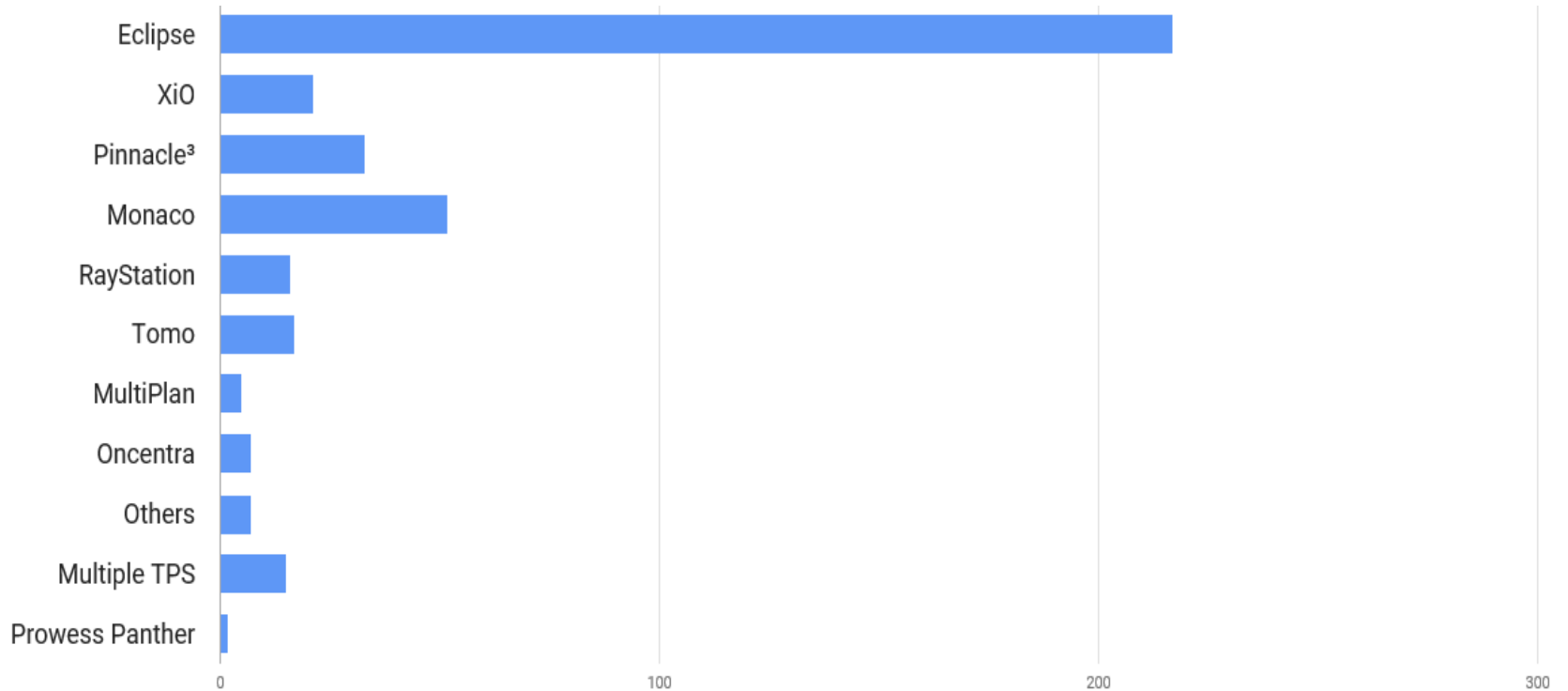
The Number
Is increasing



Participants Per Country



Treatment Planning Systems



No. Participants

Website

Website

<http://www.radmed.org/plancompetition2016.php>

WhatsApp competition group.
To join us, send a msg to the
admin No:
+966-531271245

To join our mailing list:
Send email to
anobah@kfshrc.edu.sa

accept the challenge

Scroll Down

2016 RADIOTHERAPY PLAN COMPETITION

Be the strongest link in the radiotherapy chain

THE ULTIMATE WINNER OF THIS COMPETITION IS OUR CANCER PATIENT

Live-Webinar Presentation:

- To download the "Results Announcement Live-Webinar Presentation" please [Click here](#)
- To download the "3D-CRT Live-Webinar Presentation" please [Click here](#)

General Comments:

- Next Live-Webinar will be Eclipse TPS, the date will be on June 2nd 2016 (*NEW*)
- Please check the Important Dates tap to follow up with the live-webinar schedules

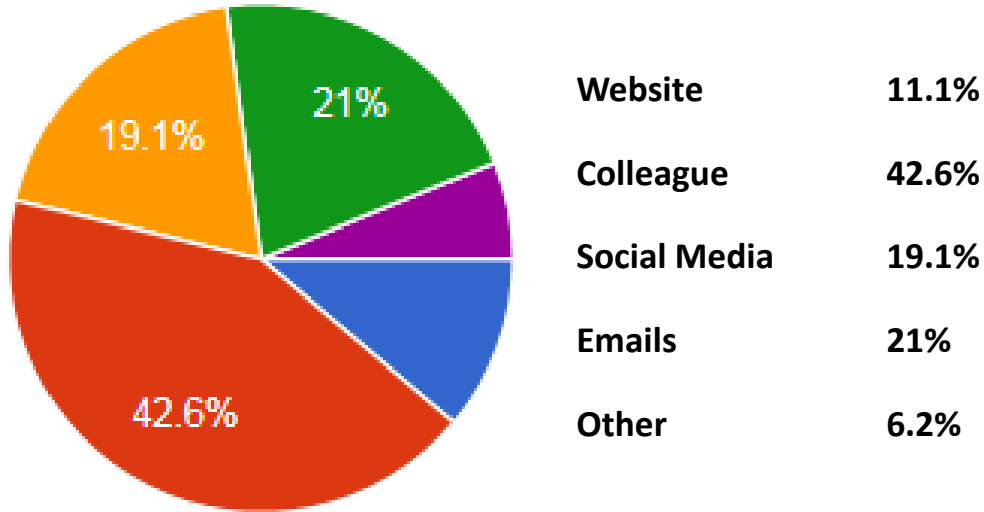
About the Competition	The Competition Process	The Evaluation Tool	Statistics of 2016	Important Dates	Evaluation Form	Evaluation Responses
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Evaluation Responses
165 Forms Submitted

Evaluation Responses

166 Forms Submitted

How did you hear about the competition?

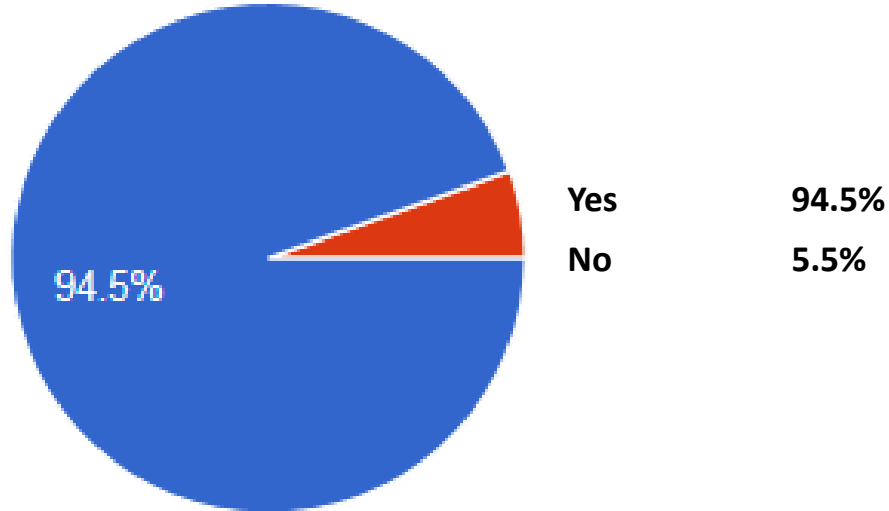


Organizers' Response

Please share the competition with your colleagues and use other means of sharing

Evaluation Responses

Do you feel that such a competition was beneficial and improved your planning skills?

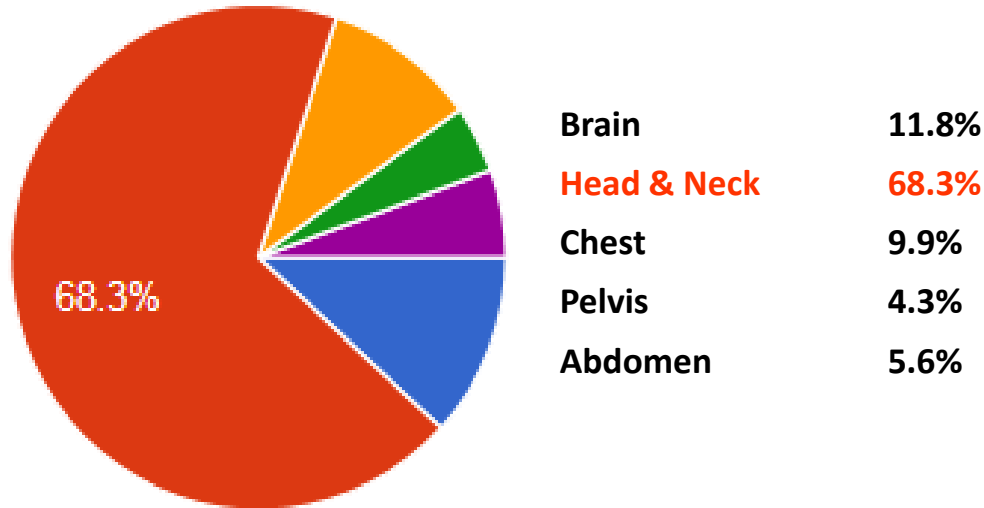


Organizers' Response

**It was a tough competition !
But most have learned from
being in such a challenging
situation**

Evaluation Responses

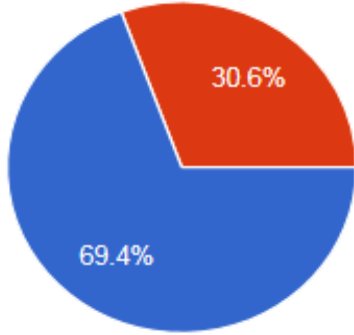
What site you suggest to be selected for our next competition?



Organizers' Response

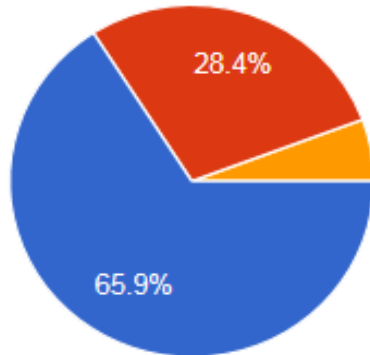
**Decision has been made:
2017 Plan Competition will
be Head & Neck case
Get Ready 😊**

Was the time given to finish the plan (2 weeks) enough?



Yes	69.4%
No	30.6%

If the time was short, what do you suggest the period (weeks) to be for the next competition?



Three weeks	65.9%
Four weeks	28.4%
Five weeks	5.7%

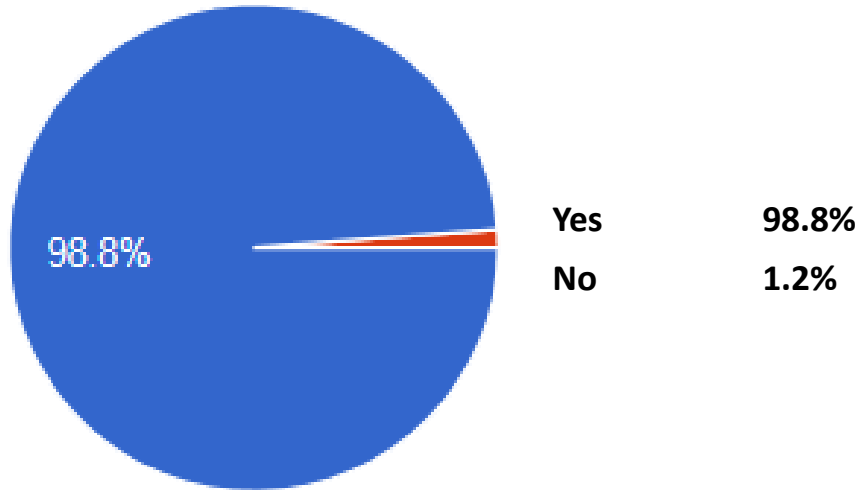
Organizers' Response



2017 Plan Competition will have 3 weeks planning time

Evaluation Responses

Would you recommend this competition to your colleagues in its next edition?



Organizers' Response

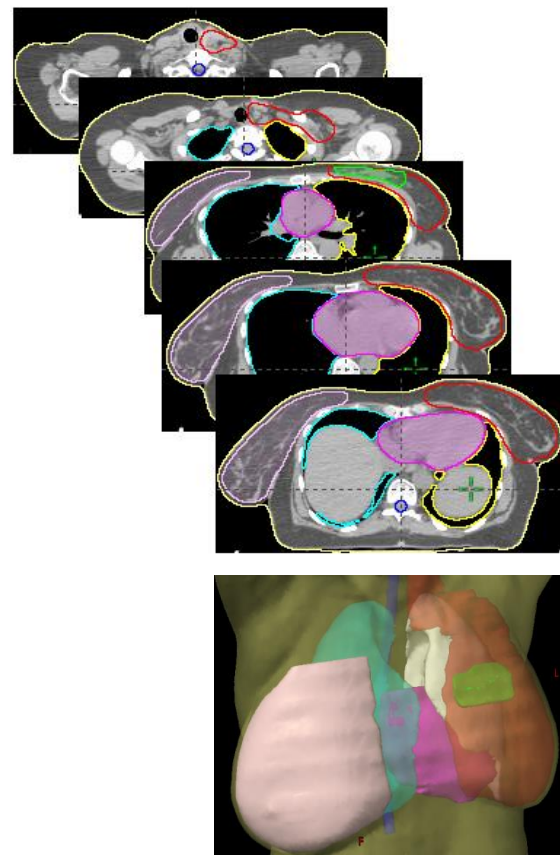
Thank you 😊

Please share this competition with your colleagues, we really like the competition community to reach *thousands* in the 2017

Case Description

Case Description

- Case diagnosis: Left Breast Cancer
- Treatment Site: Left breast with axilla and supraclavicular lymph nodes
- Target: PTV_TOT_EVAL
- Dose prescription: 50.0 Gy in 25 fr.
- Protocol followed: RTOG-1304 (Criteria squeezed more !)
- Techniques: 3D-CRT, IMRT, VMAT
- General plan criteria were set: # of fields, single isocenter, energies, ... etc
- Dose calculation grid should be less than 3 mm
- PB dose calculation is not allowed to be used
- Generated plan should be deliverable (no couch/patient collision)



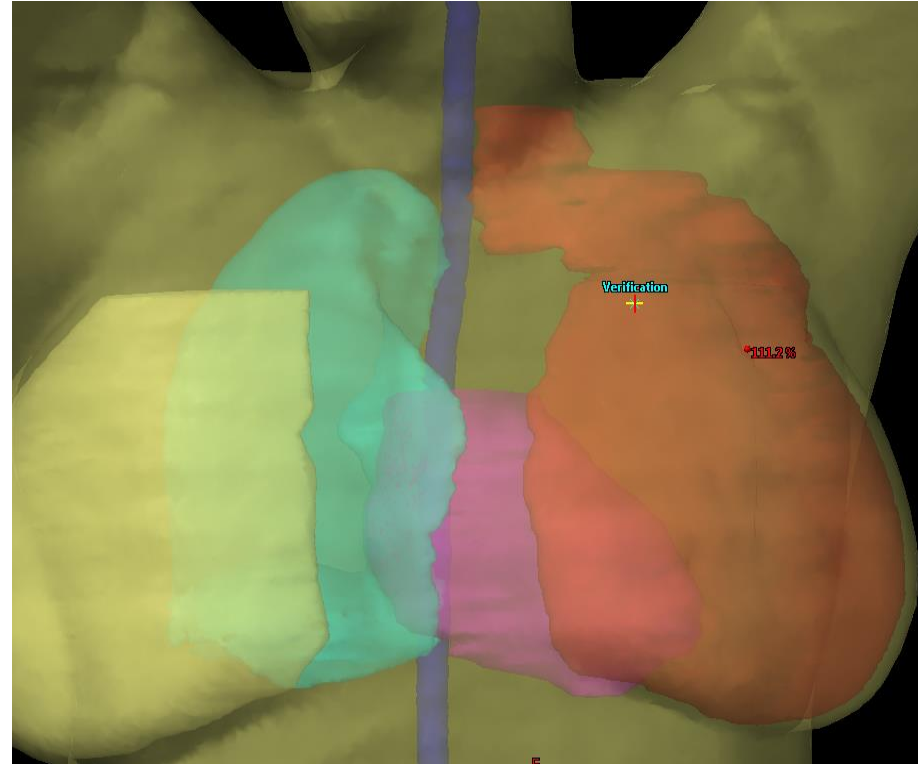
Challenging Criteria

1. Target: (Total of 45 points out of 100)

- DVH
- Conformity Index
- Homogeneity Index

2. OARs:

- Heart: (Total of 20 points)
- Left Lung: (Total of 19 points)
- Contra-lat Breast: (Total of 6 points)
- Right Lung: (Total of 4 points)



How to get started ?

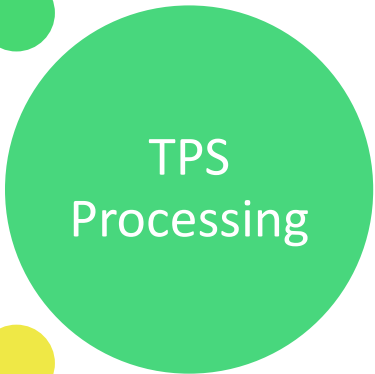
Contouring



Field Geometry



Optimization



Good inputs → Good outputs

**How planners achieved such high quality plans
in our left breast challenging case?**

Let us find out now