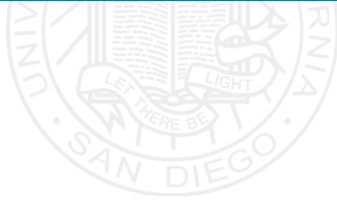


# Streamlining Treatment Design Processes and the Role of the Planner

**Todd Atwood, PhD**  
Associate Professor  
Radiation Medicine & Applied Sciences

UC San Diego Health

RETHINKING MEDICAL PHYSICS



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What are treatment design processes?

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## Treatment Design

Simulation

Treatment



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## Treatment Design



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## Treatment Design



● Dosimetry

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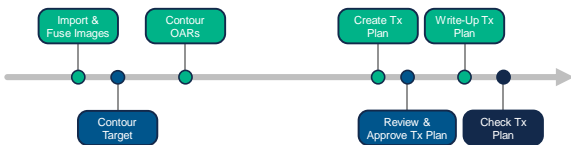
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## Treatment Design



● Dosimetry ● Physician

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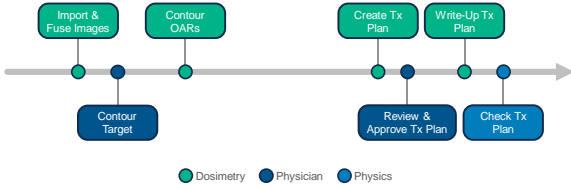
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## Treatment Design



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Why is this inefficient?

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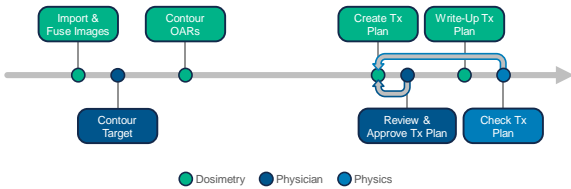
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## Treatment Design



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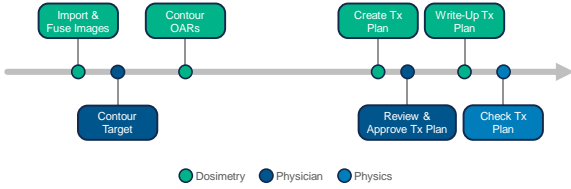
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## Treatment Design



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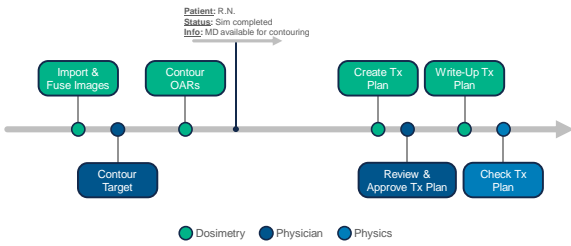
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## Treatment Design



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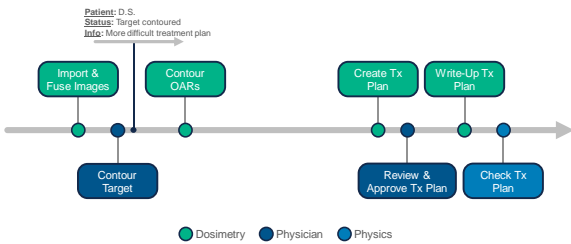
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## Treatment Design



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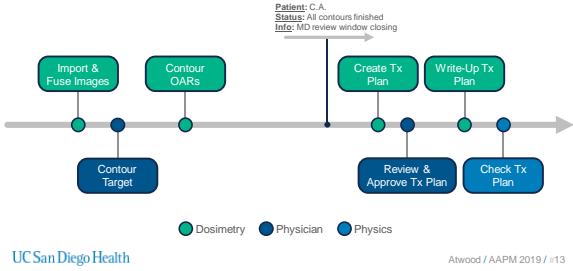
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## Treatment Design



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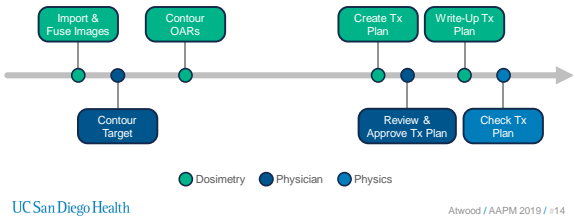
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## Treatment Design



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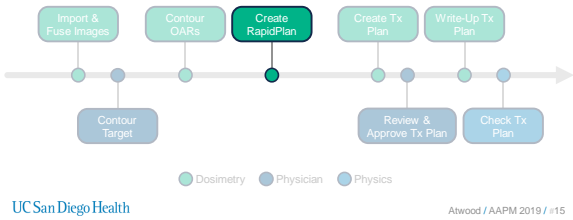
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## Treatment Design



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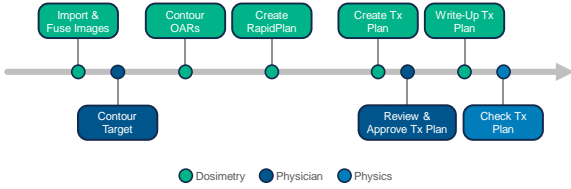
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# Treatment Design



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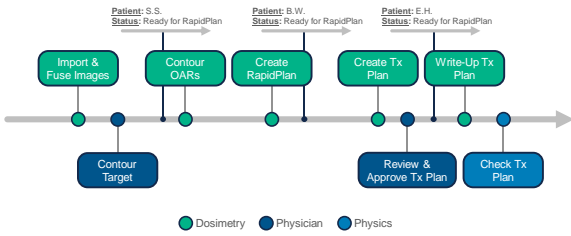
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# Treatment Design



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How can we improve?

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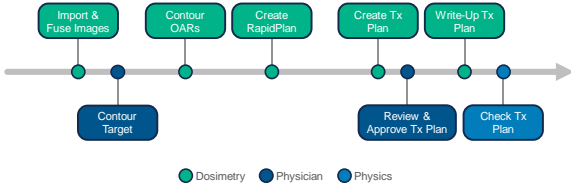
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## Treatment Design



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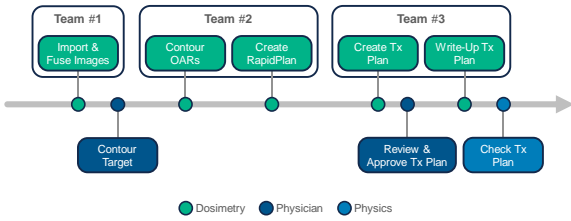
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## Team-Based Dosimetry



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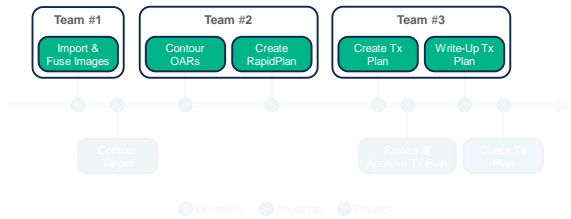
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## Team-Based Dosimetry



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# Team-Based Dosimetry

Start Date	Start Date	Start Date
<b>Team #1</b>	<b>Team #2</b>	<b>Team #3</b>
Import & Fuse Images	Contour OARs    Create RapidPlan	Create Tx Plan    Write-Up Tx Plan
<b>Task List</b> Patient H.C. Patient M.E. Patient J.S. Patient D.D. Patient B.E. Patient S.K. Patient T.N. Patient G.V.	<b>Task List</b> Patient F.T. – Contour OARs Patient R.R. – Create RapidPlan Patient G.T. – Contour OARs Patient V.V. – Contour OARs Patient D.H. – Create RapidPlan Patient L.U. – Create RapidPlan Patient E.F. – Contour OARs Patient O.P. – Contour OARs	<b>Task List</b> Patient A.R. – Create Tx Plan Patient B.W. – Create Tx Plan Patient J.L. – Write-Up Tx Plan Patient B.F. – Create Tx Plan Patient K.K. – Create Tx Plan Patient R.A. – Write-Up Tx Plan Patient M.G. – Write-Up Tx Plan Patient L.W. – Create Tx Plan

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# Team-Based Dosimetry

Start Date	Add Task Complexity	Add Task Complexity
<b>Team #1</b>	<b>Team #2</b>	<b>Team #3</b>
Import & Fuse Images	Contour OARs    Create RapidPlan	Create Tx Plan    Write-Up Tx Plan
<b>Task List</b> Patient H.C. Patient M.E. Patient J.S. Patient D.D. Patient B.E. Patient S.K. Patient T.N. Patient G.V.	<b>Task List</b> Patient F.T. – Contour OARs Patient R.R. – Create RapidPlan Patient G.T. – Contour OARs Patient V.V. – Contour OARs Patient D.H. – Create RapidPlan Patient L.U. – Create RapidPlan Patient E.F. – Contour OARs Patient O.P. – Contour OARs	<b>Task List</b> Patient A.R. – Create Tx Plan Patient B.W. – Create Tx Plan Patient J.L. – Write-Up Tx Plan Patient B.F. – Create Tx Plan Patient K.K. – Create Tx Plan Patient R.A. – Write-Up Tx Plan Patient M.G. – Write-Up Tx Plan Patient L.W. – Create Tx Plan

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# Team-Based Dosimetry

Start Date	Add MD Availability	Add MD Availability
<b>Team #1</b>	<b>Team #2</b>	<b>Team #3</b>
Import & Fuse Images	Contour OARs    Create RapidPlan	Create Tx Plan    Write-Up Tx Plan
<b>Task List</b> Patient H.C. Patient M.E. Patient J.S. Patient D.D. Patient B.E. Patient S.K. Patient T.N. Patient G.V.	<b>Task List</b> Patient F.T. – Contour OARs Patient R.R. – Create RapidPlan Patient G.T. – Contour OARs Patient V.V. – Contour OARs Patient D.H. – Create RapidPlan Patient L.U. – Create RapidPlan Patient E.F. – Contour OARs Patient O.P. – Contour OARs	<b>Task List</b> Patient A.R. – Create Tx Plan Patient B.W. – Create Tx Plan Patient J.L. – Write-Up Tx Plan Patient B.F. – Create Tx Plan Patient K.K. – Create Tx Plan Patient R.A. – Write-Up Tx Plan Patient M.G. – Write-Up Tx Plan Patient L.W. – Create Tx Plan

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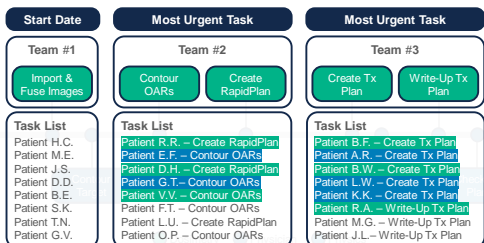
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## Team-Based Dosimetry



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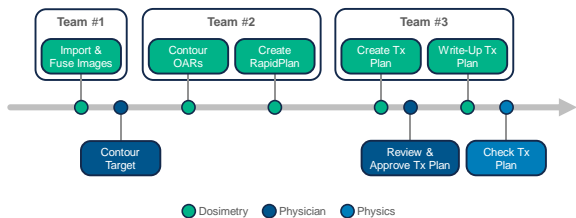
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## Treatment Design



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What's next?

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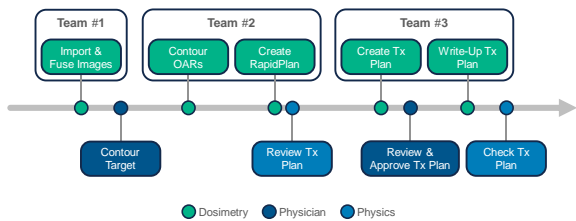
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# Treatment Design



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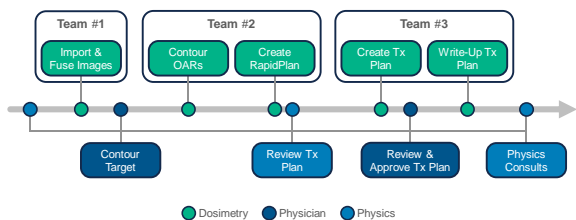
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# Treatment Design



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@DrMedPhys

**Collaborators**  
 Kevin Moore, PhD  
 Mariel Cornell, CMD  
 Todd Pawlicki, PhD  
 AJ Mundt, MD

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