Quick Tip: Beam Guide

Prerequisites:

- Beam Guide subscription enabled
- Postural Video subscription enabled
- CT Sim surface used during import

Beam Guide Introduction

Beam Guide is a subscription feature in AlignRT that projects the treatment plan onto the patient's surface in Video mode, helping clinicians assess alignment before beam delivery. It is available for most C-Arm linacs (Varian linacs (TrueBeam, Edge, C-Series with Millenium or HD 120 MLC) and Elekta linacs (with Agility head), but not for bore-based linacs or Proton systems.

It supports **entrance and exit beams for 3D conformal, IMRT, and VMAT** techniques.

Beam Guide is a visual aid only and requires an imported treatment plan in AlignRT and can display all planned couch rotations.

A white outline shows the union of the shapes of all the selected fields from the DICOM RT Plan, while an orange projection displays in real time where the beam intersects the patient's surface (Figure 1).

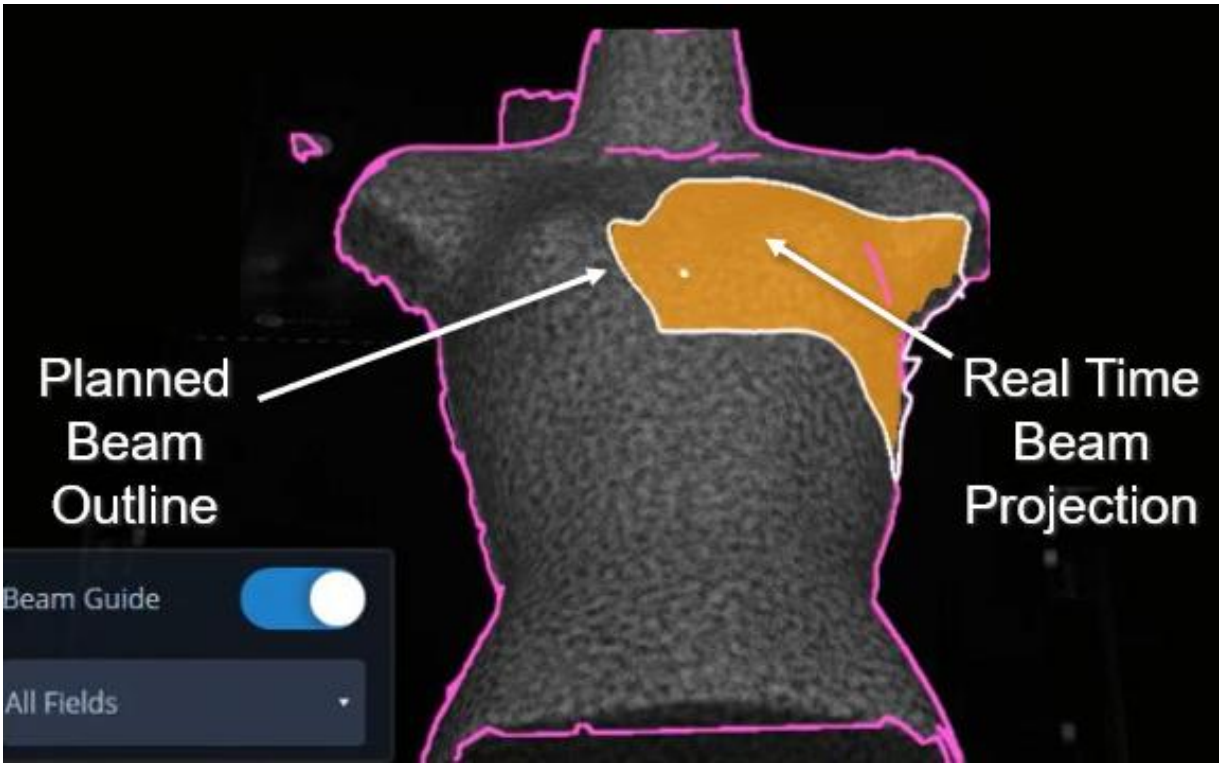

Figure 1: Beam Guide feature

By default, Beam Guide shows all fields from the imported treatment plan. You can adjust its display using the controls, see Figure 2.

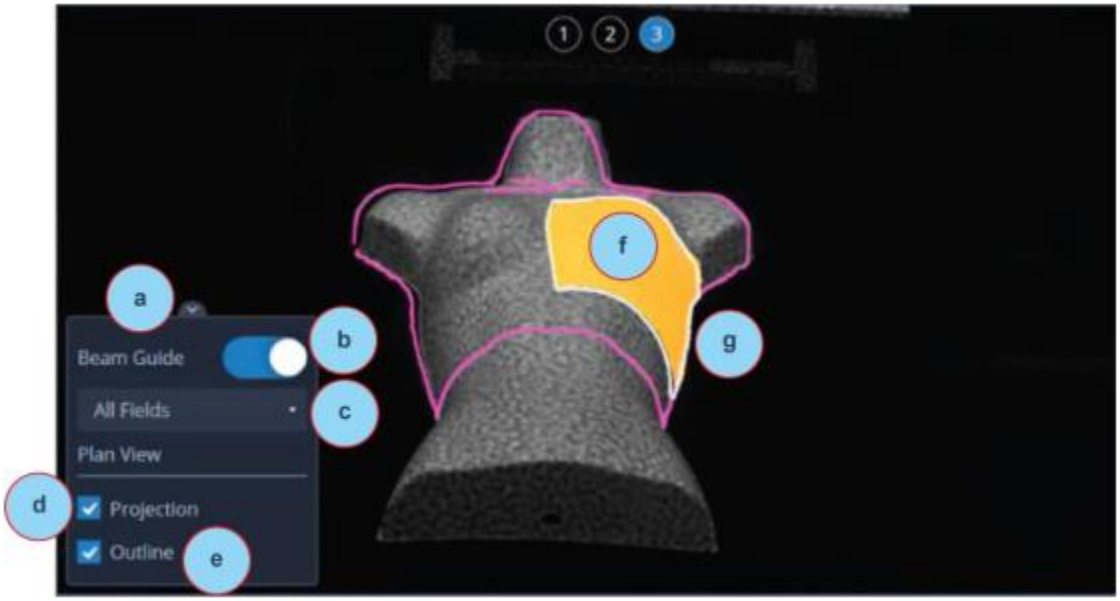

Figure 2: Beam Guide

Key	Description
a	**Minimize/Maximize:** Minimize/Maximize Beam Guide window.
b	**Beam Guide:** Toggle Beam Guide on or off.
c	**Treatment Fields:** Click to select which treatment fields to display.
d	**Projection:** Show or hide beam projection.
e	**Outline:** Show or hide outline of beam projection.
f	**Beam Projection:** Projected beam for current treatment plan.
g	**Projection Outline:** White outline of beam projection.

Table 1: Beam Guide description

Workflow: Patient Alignment with Beam Guide

1. Prepare and align the patient.
2. Once RTDs are within tolerance, use Beam Guide:
    - Select **All Fields**
    - **Orange projection** shows the actual projected beam path.
    - **White outline** shows the planned field position.
    - **Compare both to assess alignment.**
    - Adjust pod views for better visualization, select/deselect fields as needed.
    - For final verification, ensure all fields are selected to confirm optimal positioning.
3. Image the Patient.
4. After SGRT surface capture, the system switches to Surface View—return to Video View to continue using Beam Guide.
5. **The white outline remains fixed relative to the isocenter, based on the original CT Sim surface.**
    - Message displayed: *"Plan outline is based on CT Sim. (*Figure 3*)"*

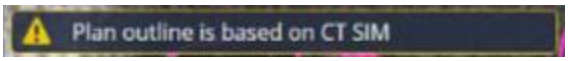

Figure 3: Warning for SGRT reference

6. **Use RTDs as the primary reference for beam gating during treatment.**

Additional information

SGRT capture

After acquiring a new SGRT surface, the **white outline** remains in the same position relative to the isocenter. This is because it is still based on the original RT plan and CT Sim surface. The outline **does not adjust or deform** based on the new SGRT surface.

For example, if the user is aligning to an internal target and has made a shift based on imaging, it's expected that the **outline and projection may not fully match**. In such cases, the user should assess whether the difference is reasonable. If the discrepancy appears larger than expected, users should investigate potential causes—such as patient movement between imaging shifts and SGRT capture.

Clinical judgment should be applied to determine the appropriate course of action based on departmental protocols.

Respiratory Module in combination with Beam Guide AlignRT 8.0

For systems licensed/subscribed to both Respiratory Module and Beam Guide, Beam Guide should not be enabled while the respiratory patch is being monitored with Respiratory Module as this may impact the system performance and latency.

Workflow when using Respiratory Module and Beam Guide

For patients that are imported with a Respiratory Protocol, below is a recommended workflow to support the use of Respiratory Module and Beam Guide.

- Open the patient in Treatment
- Enable monitoring and position the patient based on Real-Time Deltas (RTDs)
- If desired, switch to Video and use Postural Video to aid in patient positioning
- In Video view, use Beam Guide to assess the projected beam vs planned outline
- When satisfied with Beam Guide information, disable it by toggling the feature off

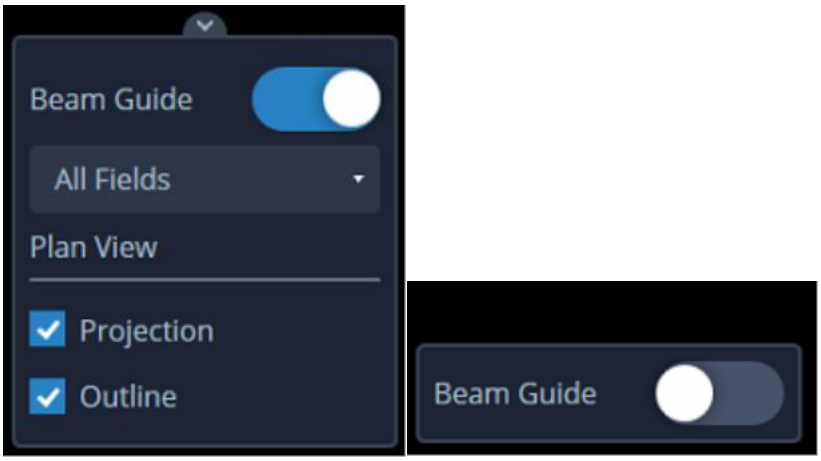

Figure 4: Beam Guide Enabled (left). Toggle the switch off to disable Beam Guide. Beam Guide Disabled (right)

- Enable patch tracking and continue patient setup (if needed), imaging, and beam delivery as normal but with Beam Guide disabled
- If there is a need to review Beam Guide at any time, it is recommended to stop patch monitoring, view Beam Guide then disable it again and start patch monitoring again