

Subdivision Surfaces in Maya

Any polygonal mesh can be rendered as a [subdivision surface](#) in RenderMan for Maya.

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There are two ways to indicate that a mesh should be rendered as a subdiv:

- Enable Maya's Subdiv Proxy feature.
- Select a RenderMan "Subdivision Scheme" setting in the Shape Node. Typically Catmull-Clark.

Read on for details about the steps involved in either of these approaches.

Create a Subdiv Proxy

To create a subdiv proxy in maya, select a mesh and then do one of the following:

- Mesh > Smooth Proxy > Subdiv Proxy
- Press Ctrl + Shift + ~ (tilde)

In the viewport you'll see a preview of the subdivision surface.

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By default the mesh is rendered as a [Catmull-Clark subdivision surface](#). It is also possible to render as a [Loop subdivision surface](#) by adding the Subdivision Scheme attribute and changing its value.

Subdivision Scheme

When a Subdivision Scheme attribute is selected in Maya it will be rendered as the selected type of subdiv. The choices are Catmull-Clark, Loop, or None (for disabling).

The attribute will be respected whether or not Maya's Subdiv Proxy mode is enabled, but it isn't required in Subdiv Proxy mode, unless you wish to switch to Loop.

The Attribute appears in the RenderMan rollout of the Attribute Editor.

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Creases

Sometimes when working with subdivs you'll want to apply creases to portions of the control mesh, to adjust the shape of the resulting subdivision mesh. Maya's Subdiv Proxy allows you to do this. Activate the crease tool:

Mesh > Smooth Proxy > Crease Tool

Then select an edge of the control mesh and drag the middle mouse button to apply a crease value.

In this example, creases have been applied to the three edges meeting at the nearest corner of the cube.

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