

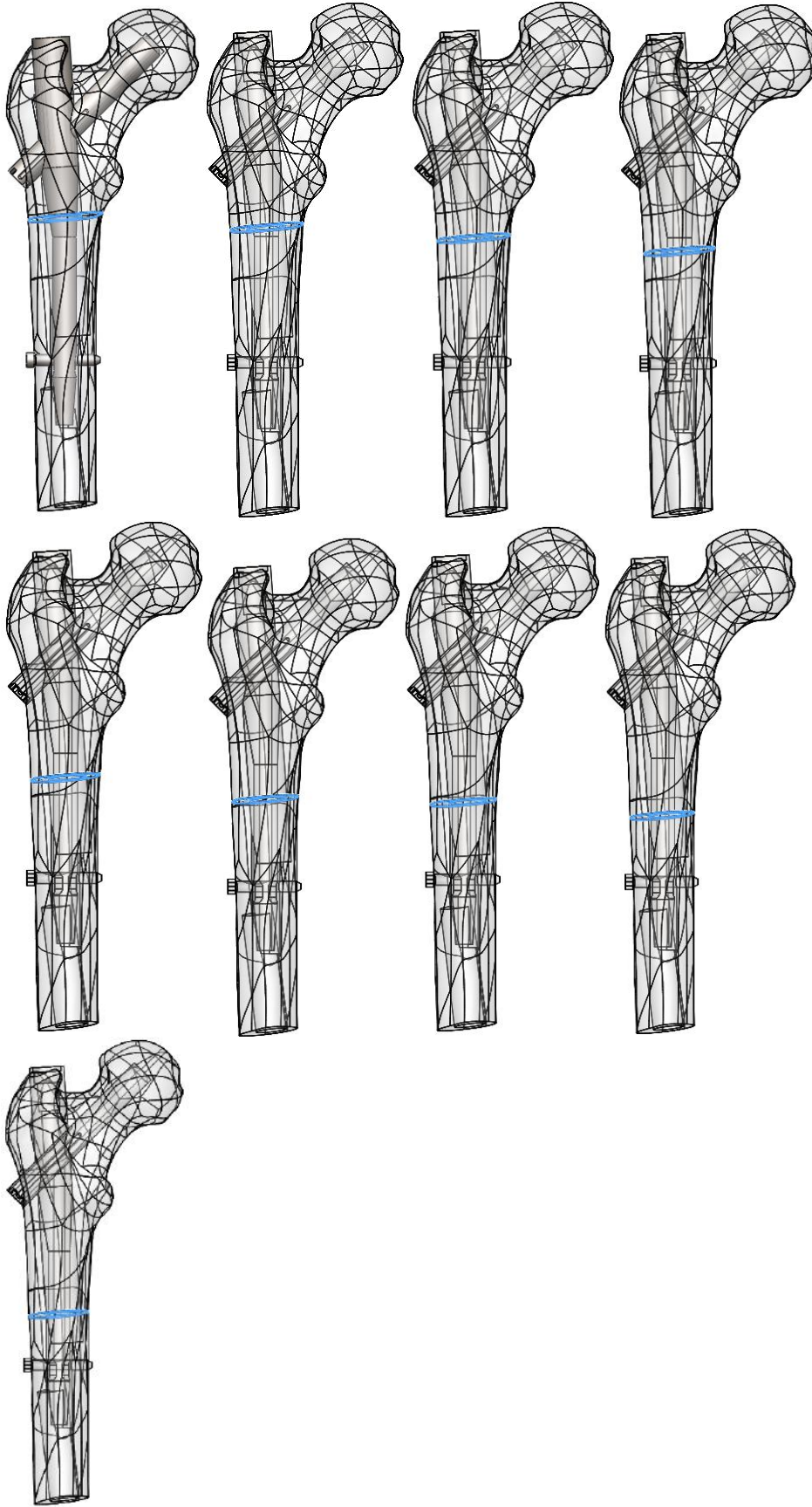
FEM Simulation Methods (Study Set-Up)

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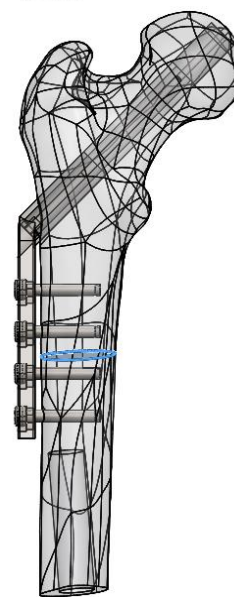
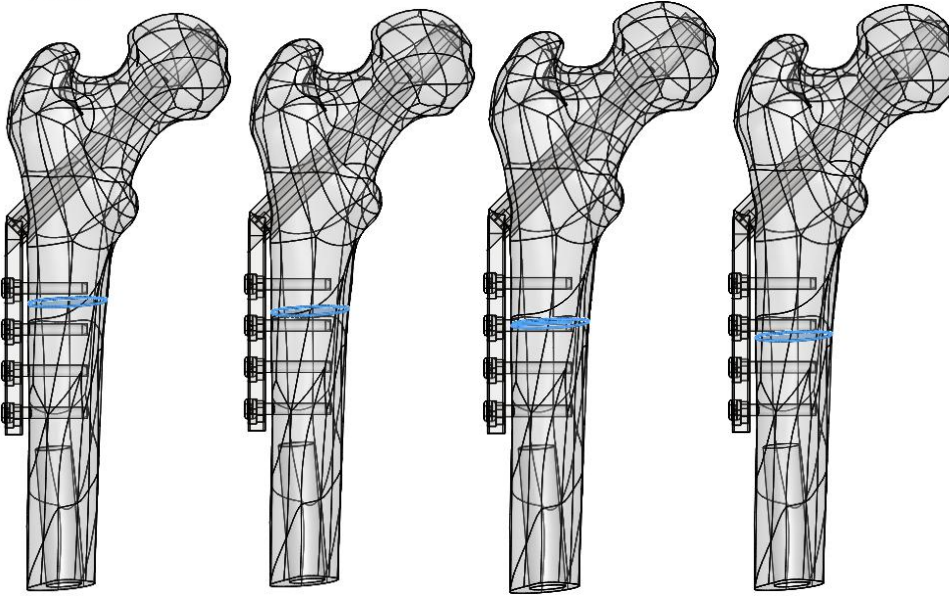
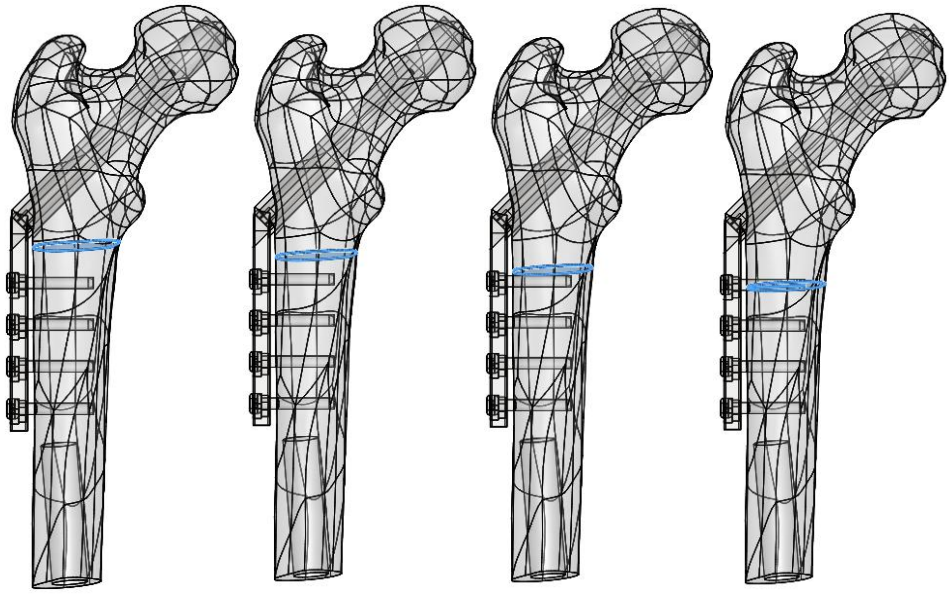
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Subtrochanteric fracture location

PFNA (STF location)

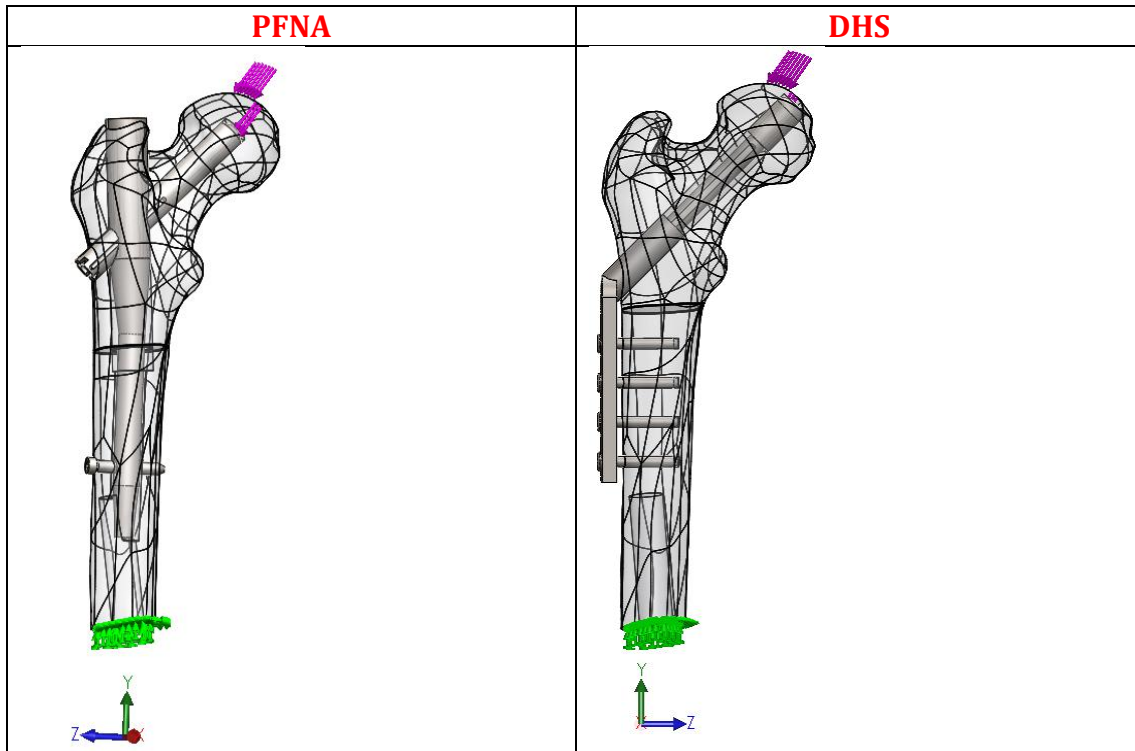


DHS (STF location)



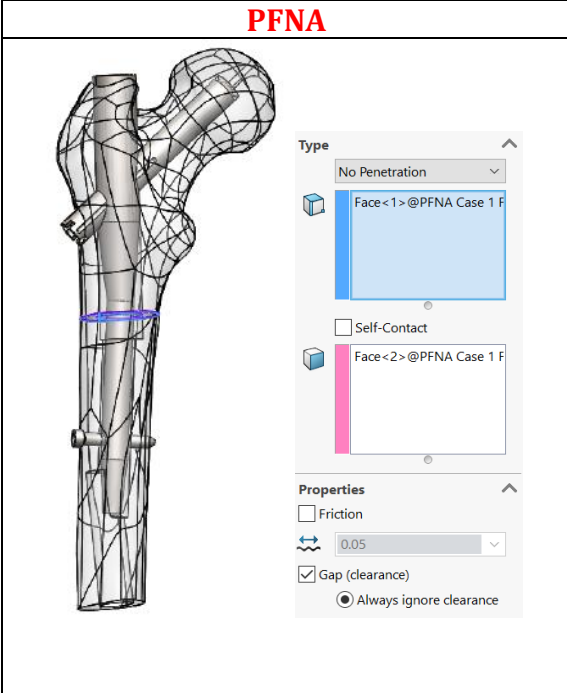
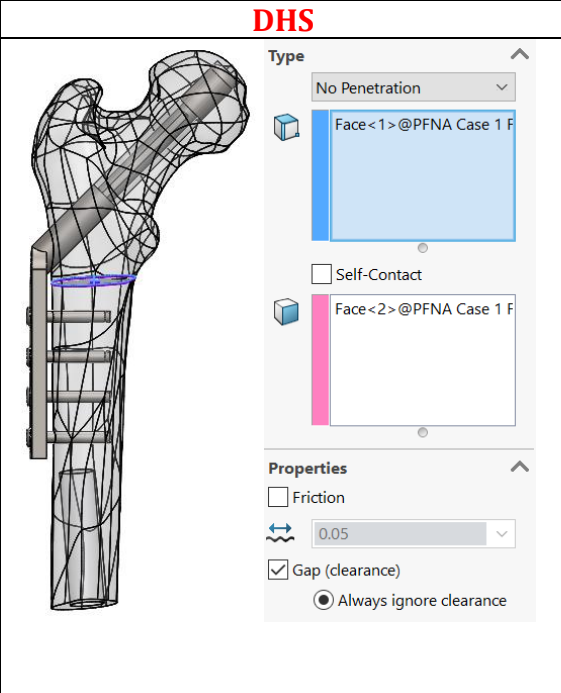
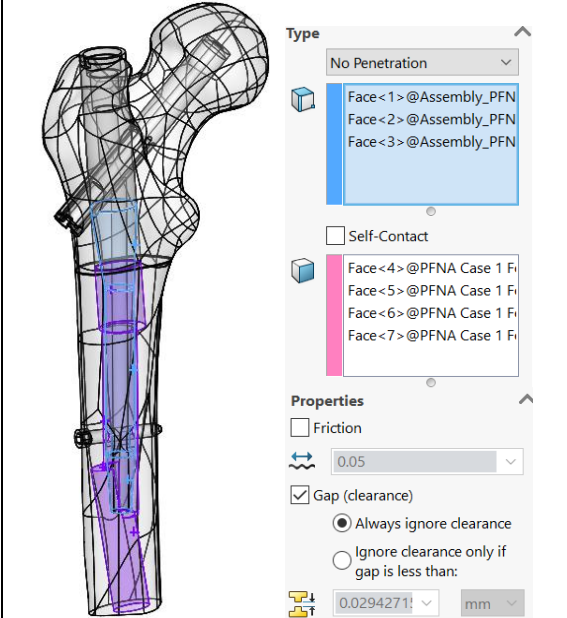
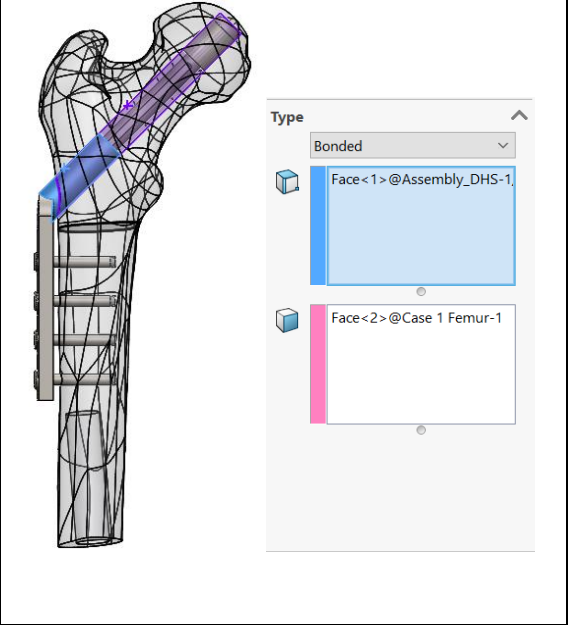
Force & Fixture (PFNA & DHS)

- Identical for PFNA & DHS
- Force at angle of 45 degrees downward in direction of gravity
- Fixture at femoral shaft

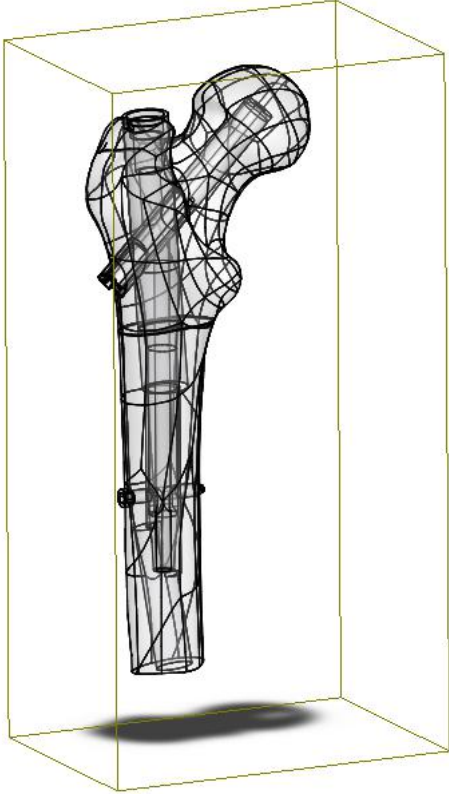
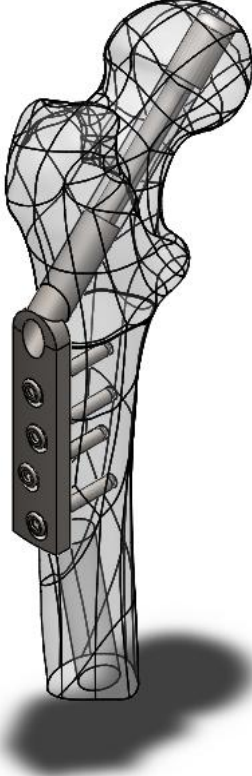




Connection (PFNA & DHS)

Contact-Set

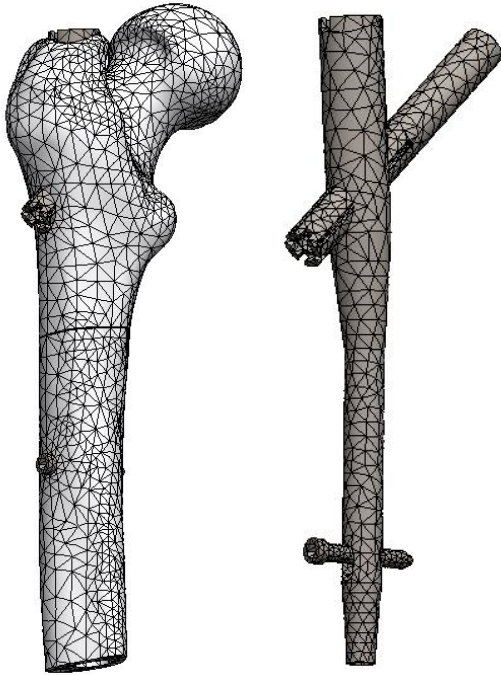
PFNA	DHS
 <p>Type</p> <ul style="list-style-type: none"> No Penetration Face<1>@PFNA Case 1 F Self-Contact Face<2>@PFNA Case 1 F <p>Properties</p> <ul style="list-style-type: none"> Friction 0.05 Gap (clearance) <ul style="list-style-type: none"> Always ignore clearance 	 <p>Type</p> <ul style="list-style-type: none"> No Penetration Face<1>@PFNA Case 1 F Self-Contact Face<2>@PFNA Case 1 F <p>Properties</p> <ul style="list-style-type: none"> Friction 0.05 Gap (clearance) <ul style="list-style-type: none"> Always ignore clearance
 <p>Type</p> <ul style="list-style-type: none"> No Penetration Face<1>@Assembly_PFN Face<2>@Assembly_PFN Face<3>@Assembly_PFN Self-Contact Face<4>@PFNA Case 1 F Face<5>@PFNA Case 1 F Face<6>@PFNA Case 1 F Face<7>@PFNA Case 1 F <p>Properties</p> <ul style="list-style-type: none"> Friction 0.05 Gap (clearance) <ul style="list-style-type: none"> Always ignore clearance Ignore clearance only if gap is less than: 0.0294271! mm 	 <p>Type</p> <ul style="list-style-type: none"> Bonded Face<1>@Assembly_DHS-1, Face<2>@Case 1 Femur-1

Global-Contact

PFNA	DHS
	
<p>Contact Type ^</p> <p><input type="radio"/> No Penetration</p> <p><input checked="" type="radio"/> Bonded</p> <p><input type="radio"/> Allow Penetration</p> <hr/> <p>Components ^</p> <p><input checked="" type="checkbox"/> Global Contact</p> <p> Assembly_Femur_PFNA_5</p> <hr/> <p>Options ^</p> <p><input checked="" type="radio"/> Compatible mesh</p> <p><input type="radio"/> Incompatible mesh</p> <p><input type="checkbox"/> Non-touching faces</p>	<p>Contact Type ^</p> <p><input type="radio"/> No Penetration</p> <p><input checked="" type="radio"/> Bonded</p> <p><input type="radio"/> Allow Penetration</p> <hr/> <p>Components ^</p> <p><input checked="" type="checkbox"/> Global Contact</p> <p> Assembly_Femur_PFNA_5</p> <hr/> <p>Options ^</p> <p><input checked="" type="radio"/> Compatible mesh</p> <p><input type="radio"/> Incompatible mesh</p> <p><input type="checkbox"/> Non-touching faces</p>

Mesh

PFNA (mesh value)





Mesh Parameters ^


Standard mesh


Curvature-based mesh


Blended curvature-based mesh

 mm ▾

 11.50mm ▾ ▲ ▼

 2.30mm ▾ ▲ ▼

 8 ▾ ▲ ▼

 1.6 ▾ ▲ ▼

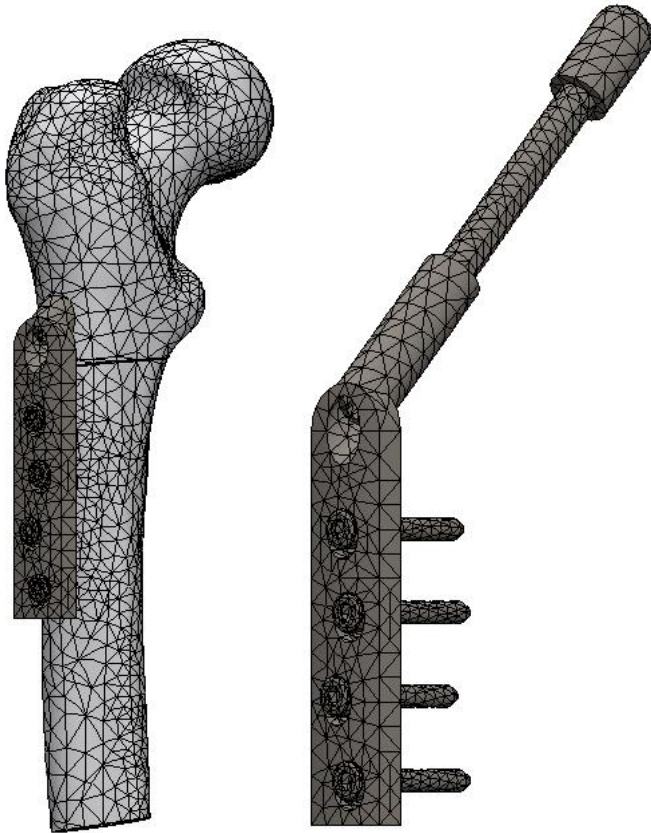
Advanced ^

Jacobian points 4 points ▾

Draft Quality Mesh

Remesh failed parts with incompatible mesh

DHS (mesh value)





Mesh Parameters ^


Standard mesh


Curvature-based mesh


Blended curvature-based mesh

 mm v

 12.00mm v

 2.40mm v

 8 v

 1.6 v

Advanced ^

Jacobian points 4 points v

Draft Quality Mesh

Remesh failed parts with incompatible mesh

Material Properties

Femur

Material properties

Materials in the default library can not be edited. You must first copy the material to a custom library to edit it.

Model Type: Save model type in library

Units:

Category:

Name:

Default failure criterion:

Description:

Source:

Sustainability:

Property	Value	Units
Elastic Modulus	14500	N/mm ²
Poisson's Ratio	0.3	N/A
Shear Modulus	3280	N/mm ²
Mass Density	1180	kg/m ³
Tensile Strength	150	N/mm ²
Compressive Strength		N/mm ²
Yield Strength	150	N/mm ²

DHS & PFNA

Material properties

Materials in the default library can not be edited. You must first copy the material to a custom library to edit it.

Model Type: Plasticity - von Mises Save model type in library

Units: SI - N/mm² (MPa)

Category: Steel

Create stress-strain curve

Name: Alloy Steel (SS)

Default failure criterion: Max von Mises Stress

Description:

Source:

Sustainability: Defined

Property	Value	Units
Elastic Modulus	210000.0005	N/mm ²
Poisson's Ratio	0.28	N/A
Tensile Strength	723.825617	N/mm ²
Yield Strength	620.4219978	N/mm ²
Tangent Modulus		N/mm ²
Thermal Expansion Coefficient	1.3e-05	/K
Mass Density	7700.000118	kg/m ³
Hardening Factor	0.85	N/A