

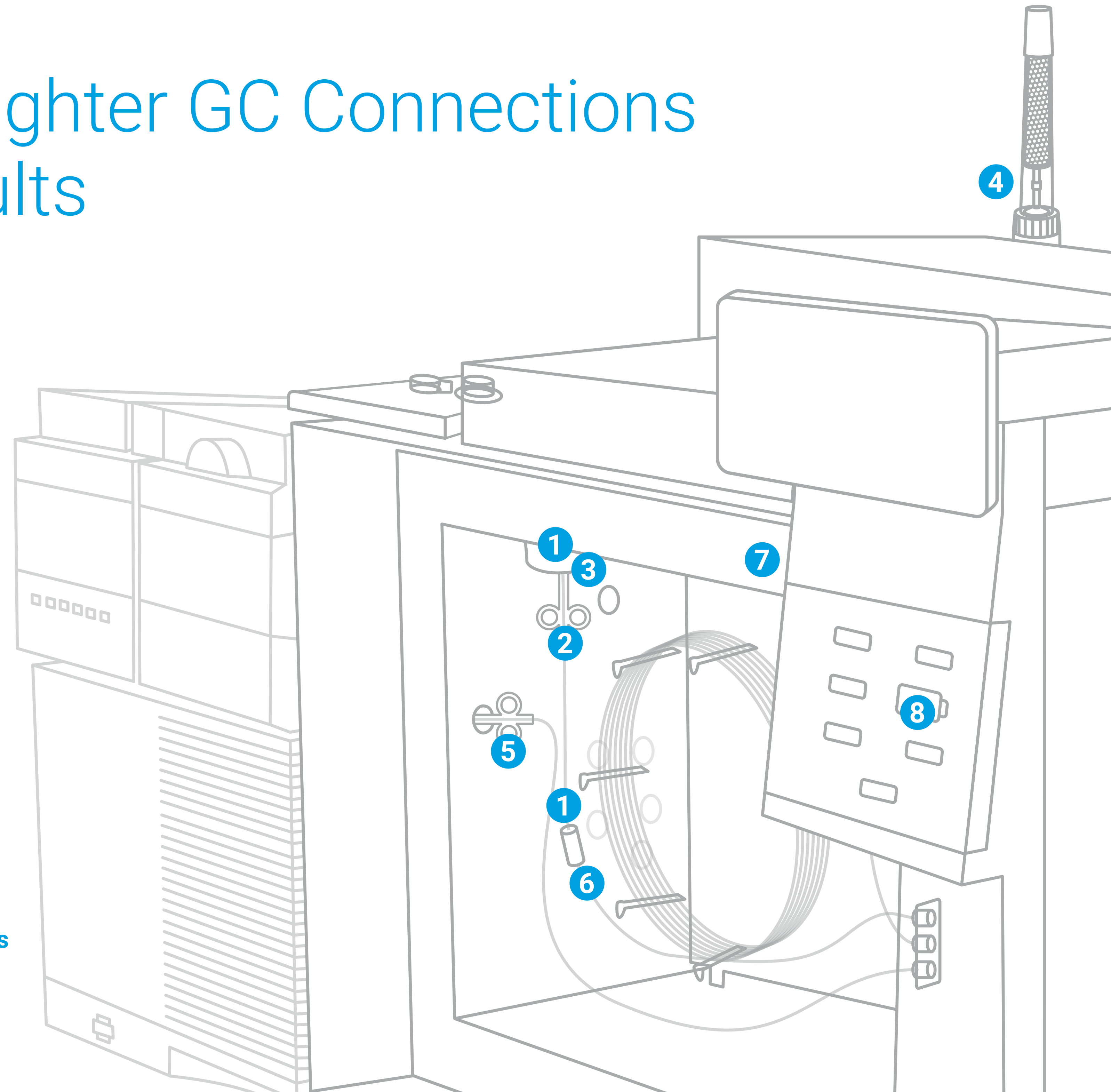
Eight Tips for Tighter GC Connections and Better Results

Inspecting your GC column connections is a key part of good preventive maintenance—and a laboratory practice that you simply *cannot* afford to overlook. That's because poor, leaky connections can cause:

- Noisy baselines
- Loss of expensive, high-quality gas
- Shorter column and detector life
- Decreased system sensitivity
- Reduced system productivity

This poster highlights critical GC connection “hotspots” to help you fix problems before they compromise your results.

Learn more about creating and maintaining leak-free GC connections.
www.agilent.com/chem/betterGCconnections



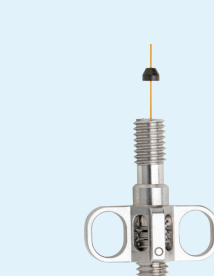
1 Use supplies that are appropriate for your application

To ensure leak-free column connections to oxygen-sensitive detectors, such as MSD or ECD where graphite/polyimide ferrules are recommended, use **Agilent Self Tightening column nuts**. If your application requires inertness, choose **Agilent UltiMetal Plus Flexible Metal ferrules** for flow path connections. Remember, too, that the right inlet liner can help maximize flow path inertness as well. The new **Agilent Ultra Inert glass-fritted liners** feature a filter frit instead of glass wool.



2 Don't overtighten fittings

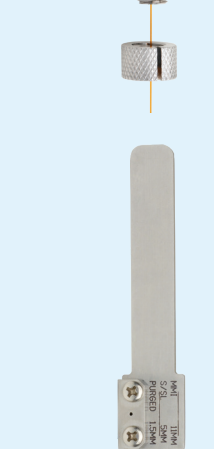
A too-tight septum nut can cause septum coring—leading to leaks and contamination. To avoid overtightening column connections, the **Self Tightening column nut** provides a leak-free fitting without the need for wrenches.



3 Install the column at the correct height

Maintain the correct column length during installation by measuring and pre-swaging metal or graphite ferrules onto the column with **Agilent pre-swaging tools**. This process is critical for accurate, reproducible results.

Always visually inspect column ends using a magnifying loop to ensure that there are no burrs or jagged edges to interfere with the flow path.



4 Remember, cleanliness matters

An **Agilent Gas Clean filter system** removes oxygen, moisture, or other contaminants that can alter your analysis. Plus, the **Agilent Gas Clean sensor** automatically alerts you when filters are saturated and need replacing.

Optimize cleanliness by using **Agilent UltiMetal Plus stainless steel tubing and fittings** for carrier gas lines and GC system plumbing.

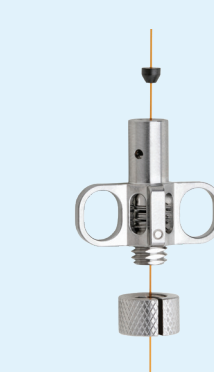
When installing a column, wear gloves or limit your handling of supplies to reduce oils or contaminants on flow path parts.



5 Reduce and eliminate leaks at the MS interface

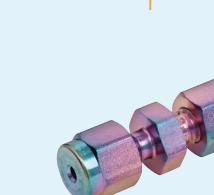
Agilent MS interface Self Tightening column nuts with graphite/polyimide ferrules ensure that your connections will last cycle after cycle.

Use a leak detector at all connections of the flow path to be certain that there are no leaks occurring throughout your system.



6 Select the proper supplies for more complex analysis

For example, the **Agilent Ultimate Union with UltiMetal Plus Flexible Metal ferrules** is a good choice for worry-free guard column/retention gap connections.



7 Choose a durable detector jet

New Agilent detector jets fit all GC platforms and simplify column installation and jet replacement—minimizing the chance of column damage.

Their sturdy construction reduces the risk of deforming, galling, and bending. Plus, they do not require thread lubricant, which can cause contamination.



8 Know the status of your GC capillary column

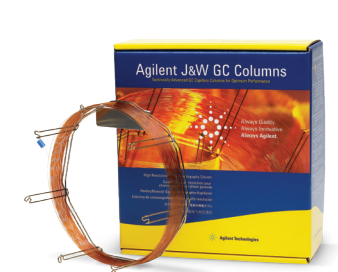
Agilent Smart Keys provide immediate identification and information on column use, configuration, age, temperature, and number of injections. Default parameters facilitate configuration.



Keep in mind that other factors affect the quality and consistency of your data



Agilent sample preparation products
Eliminate laboratory variability and ensure consistent flow, cleanliness, and recovery.



Agilent J&W GC columns
Depend on the sharpest peaks, the best inertness, and the tightest column-to-column reproducibility.



Agilent GC and GC/MS systems combined with OpenLab CDS and MassHunter software
Perform consistent chromatography and keep pace with stringent new methods and demanding sample loads.



Agilent Press Fits and guard columns
Extend the lifetime of your column by using deactivated tubing and connectors.



Agilent ADM flow meter
Simplify your flow meter recalibration. Instead of shipping back for recalibration to maintain NIST-traceable standards, simply order a new NIST-calibrated cartridge and replace the old cartridge yourself.