stryker

Bone Mill+™

with automated tissue removal

Powering the gold standard

More of **what you want**

You've made us the bone mill market leader[2] but we're not resting on our laurels. Now with an enhanced power base and bone mill – plus new Prep+ disposable cartridge for automated tissue removal prior to milling – today's Bone Mill+ is designed to deliver more capabilities and value. Here's how.

Improvements at a glance[1]	Bone Mill	Bone Mill+
New Prep+ cartridge mechanically removes tissue from bone prior to milling		+
Less manual processing effort and related fatigue/pain		+
Higher volume catch tray	Up to 50cc	Up to 120cc
Redesigned catch tray; more stable and easier to use/remove		+
More transparent surface area for visibility		+
Modified design enables safe access to residual bone for maximal yield		+
Power handle for multiple grip points		+
Refined plunger ergonomics and function		+
Improved ease of use via numerous design refinements		+
Sits flat and upright; may be used to mix		+
3 milling blades (fine, medium, coarse)	•	+
Single pass cutting action	•	+
Custom insert tray for base sterilization case	•	+
CORE 2 Console electronic driver	•	+

3x more volume than Midas Rex mill[1]

Catch tray now 120cc 140% more volume than Bone Mill 1[1]

More value. **Less hassles.**

Faster availability

41 minutes saved in manual bone processing[2]

99x faster than manual milling[2]

More than 2.5x faster than manual tissue removal[2]

More consistent tissue removal time than manual[2]

Consistent quality

15% higher quality rating of soft tissue removal than manual[2]

More effective soft tissue removal than manual[2]

Higher quality bone stripping than manual[2]

Greater quantity

46% more Prep+ bone yield compared to manual cleaning*[2]

140% increase in catch tray volume enables more quantity per milling than Bone Mill[1]

Helps reduce risk

Fatigue/injury associated with manual processing[2]

50% reduction of glove puncture when manual processing[2]

*10 minute Bone Mill+ cycle vs 10 minutes of manual soft tissue removal

Prep+ cartridge
More automation, less effort

Converts arduous, manual tissue stripping of harvested bone into an easy, automated process

- Strips bone uniformly; eliminates variations in manual processing[2]
- Streamlines workflow
- Reduces physical effort and potential injury[2]
- Allows time/attention for other tasks

100% feel Bone Mill+[2]

- Allows for smooth, simple operation and retrieval of bone
- Enables safe, easy access to residual bone
- Has a smooth plunger action
- Has a catch tray that helps keep bone safe during use and is stable when sitting on a flat surface
- Is quick and easy to set up

Automated Prep+ with timer takes the hassle out of tissue removal

What your colleagues are saying:[2,3]

96% feel Bone Mill+ reduces time spent handling bone

"Most exciting, I've been waiting for something like this!"

"A device that could remove soft tissue would be great. I spend so much time stripping soft tissue from the bone before milling."

"My hands and forearms are so sore ...a device that can collect and process bone so **I don't have to manually process it** would be great."

Manual tissue removal

Automated tissue removal

Mill+ attachment
More bone yield*

Refined plunger shape and design for enhanced functionality

Mechanically morselizes autograft after Prep+ or manual bone stripping. Helps maximize harvest:

- Of autograft bone from same surgical site (may apply CPT code 20936)
- To reduce supplements and their related costs

Transparent hopper to load bone; also removable to collect residual bone inside

Award-winning, single-pass cutting action keeps bone exposure to heat minimal[2]

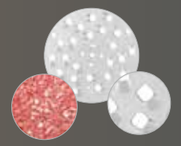
Catch tray redesign for greater volume (up to 120cc) and ease of use. Design sits flat on surfaces for mixing.

*Due to greater access to residual bone and larger catch tray volume

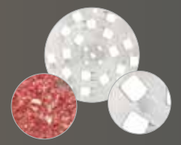
Base
More stability and security

Fine blade
Bone particulate up to 3.2mm

Medium blade
Bone particulate up to 5.0mm



Coarse blade
Bone particulate up to 8.0mm



Drive mechanisms to power Prep+ and Mill+ disposable attachments

Release latch to disconnect disposables

Power handle for multiple firm grip points

Reusable for use in sterile field

Cable port to CORE 2 Console

Stable footprint for well-balanced, upright positioning

Start/stop power button to activate base; also starts countdown timer

CORE 2 Console: More control

- Added settings and display for new Prep+ features and timer
- Smart, auto-recognition and onscreen display of Bone Mill+ and its disposables
- Simultaneously powers and controls multiple O.R. instruments including Bone Mill+ and irrigation

A Onscreen, auto-recognition of attached Prep+ cartridge or Mill blade

B Corresponding Prep timer or % power to blade.

More fusion solutions:
to automate autograft collection

Similar to Bone Mill+, our Bone Vac autologous bone dust collector aims to decrease your effort while increasing collection of gold standard autograft.

- Instantly captures autologous bone dust via integration with your existing drill and surgical suction
- Bone dust can contain viable bone-forming cells and expression markers, even after drilling, and reflects osteogenic, osteoinductive and osteoconductive potential[4-9]
- 13cc capacity filter; reusable during case
- Plunger cleanly ejects cylindrical, malleable hydrated bone dust
- Putty consistency for efficient shaping and placement

More efficient

The Bone Mill+ is your opportunity to get more of what you want – gold standard autologous bone – while reducing your manual effort. To learn more about Bone Mill+, Bone Vac or our other offerings to help advance neurosurgery and transform lives, contact your Neurosurgical sales representative, call **800 253 3210** or visit **neurosurgical.stryker.com**

Part number	Product description
Reusable components	
5420-100-000	Bone Mill+ Base
5400-704-000	The Mill Cable
5400-052-000	CORE 2 Console
5420-100-052	Bone Mill+ Software
Single-use, sterile disposable components	
5420-PRP-000	Prep+ Cartridge
5420-FNE-000	Mill+ Fine Blade
5420-MED-000	Mill+ Medium Blade
5420-CRS-000	Mill+ Coarse Blade
Kits	
5420-FNE-002	Mill+ Kit - Fine Blade and Prep+
5420-MED-002	Mill+ Kit - Medium Blade and Prep+
5420-CRS-002	Mill+ Kit - Coarse Blade and Prep+
Sterilization insert tray components (Optional – for base and cable)	
5420-101-000	Bone Mill+ Tray (Perforated)
Bone Vac autologous bone dust collector	
5400-800-000	Bone Vac (5 per box)

1. Engineering Notebook Record_D0000220921 Rev. AA **2.** Stryker data on file **3.** Source and consent on file 4. Gao, R. et al. "Human Spinal Bone Dust as a Potential Local Autograft." *Spine*. (2018): 43.4 **5.** Roth, A. et al. "Improved Autologous Cortical Bone Harvest and Viability With 2Flute Otologic Burs." *The Laryngoscope*. (2017) **6.** Gupta, A. et al. "Comparison of Osteogenic Potential of Calvarial Bone Dust, Bone Fragments, and Periosteum." *The Journal of Craniofacial Surgery*. (2009) **7.** Shad, A. et al. "Use of the Solis cage and local autologous bone graft for anterior cervical discectomy and fusion: early technical experience." *Journal of Neurosurgery Spine*. (2005) **8.** Patel, V. et al. "Histologic Evaluation of High Speed Burr Shavings Collected During Spinal Decompression Surgery." (2009) **9.** Ichiyanagi, T. et al. "Isolation of mesenchymal stem cells from bone marrow wastes of spinal fusion procedure (TLIF) for low back pain patients and preparation of bone dusts for transplantable autologous bone graft with a serum glue." *BioScience Trends*. (2010)

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