

Specifications:

- Pressure up to 15 psi
- Low speed flow rate: 700 ml/min
- High speed flow rate: 1000 ml/min
- 3 meter tube length
- Separate nozzles for TKR & THR included in the pack

References

- [1] Pulsed lavage improves fixation strength of cemented tibial components. Schlegel UJ1, Siewe J, Delank KS, Eysel P, Püschel K, Morlock MM, de Uhlenbrock AG. DOI:10.1007/s00264-010-1137-y
- [2] Pulsed lavage reduces the incidence of radiolucent lines under the tibial tray of Oxford unicompartmental knee arthroplasty Clarius, M., Hauck, C., Seeger, J.B. et al. International Orthopaedics (SICOT) (2009) 33: 1585. doi:10.1007/s00264-009-0736-y
- [3] Radiolucent lines below the tibial component of a total knee replacement (TKR) – a comparison between single-and two-stage cementation techniques. Abhijit Ranjan Guha, UjjwalKantiDebnath, and Niall McKenzie Grahamdoi: 10.1007/s00264-007-0345-6
- [4] The importance of pulsed lavage on interface temperature and ligament tension force in cemented unicompartmental knee arthroplasty. Clarius M1, Seeger JB, Jaeger S, Mohr G, Bitsch RG.
- [5] [Luedtke-Hoffmann KA, Schafer DS. Pulsed lavage in wound cleansing. Phys Ther. 2000;80:292–300.



Codex is a start-up committed to offer high quality & innovative products at competitive prices to make treatment affordable.

KOLENO PULSE LAVAGE

What is TKR :

- Knee cartilage is worn-out because of old age or trauma or genetic disorder
- This worn-out surface is removed with saws and drills
- The underlying spongy and porous bone portion is called cancellous bone
- The cut bone surface is thoroughly cleaned
- Bone cement is applied
- Metal implants are fixed

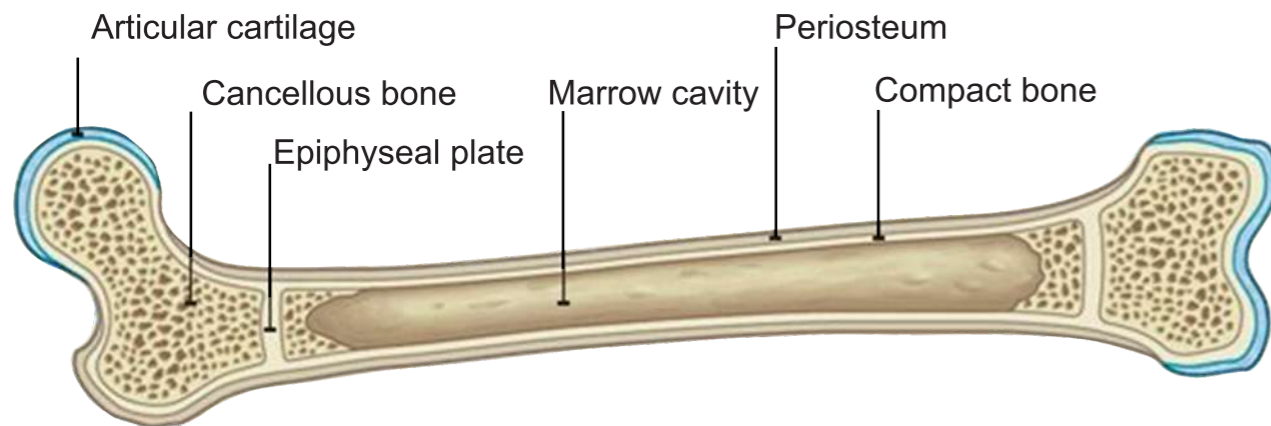


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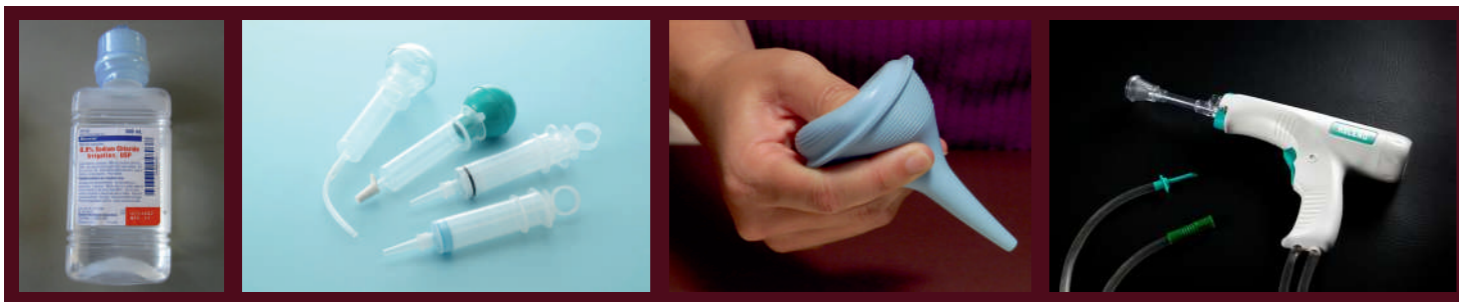
Why Pulse Lavage?

- Porous and mesh like cancellous bone contains debris such as blood, fat, bone particles etc.



- If it is not cleaned with sufficient pressure, the cement penetration will not be deep. This results into a weak joint, leading to aseptic loosening.

- Pressures of other cleaning methods:[5]



Pour bottle: 0-1 psi

Piston syringe: 4-8 psi

Bulb syringe: 0-1 psi

Pulse Lavage: up to 15 psi

- Many studies have proven the effectiveness of pulse lavage in improving bone cement penetration. In one such study, mean cement penetration was observed to be 1.32 mm with pulse lavage against 0.79 with syringe lavage. [1], [2], [4]
- Effectiveness of pulse lavage is also witnessed by pull out force analysis. Pull out force was observed to be 1275 N in case of pulse lavage against 568 N for syringe lavage.[1]
- Pulse lavage has also shown to reduce the occurrence of radiolucent lines. Radiolucent lines are the voids which may facilitate entry of joint fluid and wear debris. These lines, if propagated, cause osteolysis. [2], [3]

KOLENO Pulse lavage:

- Internal battery: Get rid of the external hanging battery and power cable.



NO EXTERNAL BATTERY

- Manufactured in USFDA and CE approved facility
- Both TKR, THR nozzles included
- Double sterile pack. Ready to use.
- Lightweight, ergonomic design for comfortable handling
- Used in more than **10,000** surgeries in India.

Pulse Lavage in trauma cases for wound cleansing:

- Origin of pulse lavage lies in Vietnam war.
- Bacteria count > 1,00,000 causes wound sepsis, resulting into delayed wound healing. [5]
- Vacuum assists wound healing. Stretched tissues lay down more collagen fibers. [5]
- Reduced risk of cross contamination. [5]

