

# Spinal anaesthesia for ambulatory arthroscopic surgery of the knee: a comparison of low-dose prilocaine and fentanyl with bupivacaine and fentanyl

Black AS, Newcombe GN, Plummer JL, McLeod DH, Martin DK. *Br J Anaesth* 2011; 106(2):183-8

## Objective

The study was set up to compare spinal block characteristics between prilocaine and bupivacaine.

## Methods

Prospective, double-blind, randomized controlled trial in patients undergoing elective ambulatory arthroscopic knee surgery under spinal anaesthesia with either.

20 mg **prilocaine** + opioid or  
7.5 mg plain **bupivacaine** + opioid

## Results

### Patient characteristics

	Prilocaine (n=22)	Bupivacaine (n=26)
Age (years)*	50	50
Body weight (kg)*	85	83

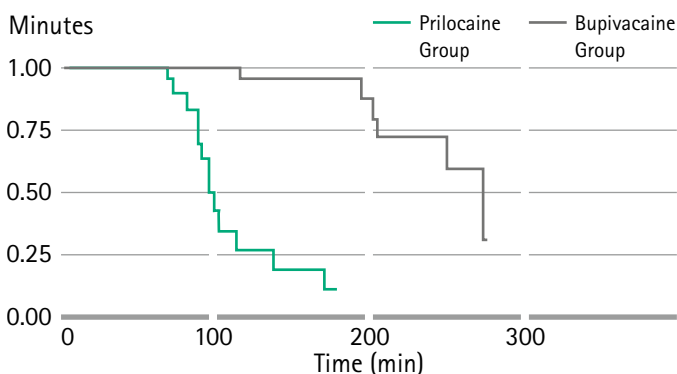
\*mean values

### Highest sensory block level

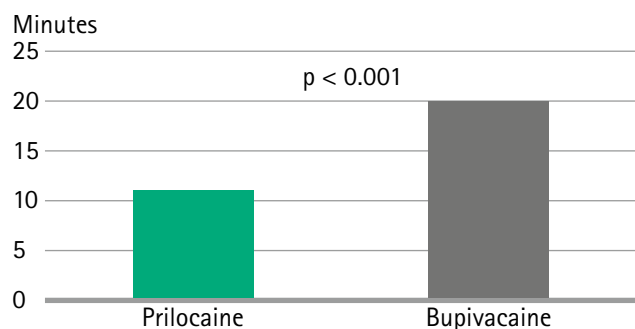
The median highest block level obtained was not significantly different ( $p=0.56$ ):

T4 for **prilocaine** group  
T3 for **bupivacaine** group

### Sensory block regression



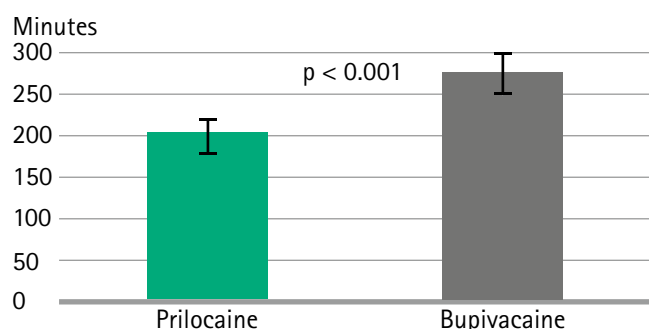
### Median time to onset of maximum sensory block



### Motor block regression

After 1 hour 75% of patients in the **prilocaine** group had a complete regression of motor block but no patient in the **bupivacaine** group.

### Median Time to Micturition ( $\pm$ 95% confidence interval)



### Haemodynamic profile

There was a greater decrease from baseline blood pressure in the bupivacaine group. And significant drop of blood pressure was more frequent in the bupivacaine group ( $p=0.04$ ).

## Conclusion:

When used for spinal anaesthesia prilocaine is faster than bupivacaine in terms of onset and offset of sensory block, regression of motor block and time to first micturition. Furthermore, prilocaine provides a safer haemodynamic profile due to less frequency of drop of blood pressure.

# Product Information

## Name of the medicinal product

Takipril 20 mg/ml solution for injection

## Composition

1 ml of solution for injection contains 20 mg of prilocaine hydrochloride (equivalent to 2%) 1 ampoule with 5 ml solution, contains 100 mg of prilocaine hydrochloride

## Excipients:

1 ml contains 0.0086 mg sodium.

Glucose anhydrous or glucose monohydrate, sodium hydroxide 1N (for pH adjustment), water for injection.

## Therapeutic indications

Takipril is indicated in adults for spinal anaesthesia in short-term surgical procedures.

## Contraindications

Takipril must not be used in patients with hypersensitivity to prilocaine hydrochloride, other amide-type local anaesthetics or to any of the excipients; serious problems with cardiac conduction; severe anaemia; decompensated cardiac insufficiency; cardiogenic and hypovolemic shock; congenital or acquired methemoglobinemia; concomitant anticoagulant therapy general and specific contraindications for the technique of subarachnoid anaesthesia. The use of Takipril in children younger than 6 months is contraindicated due to a higher risk of developing methemoglobinemia. The intravascular injection of Takipril is contra-indicated. Takipril must not be injected into infected areas.

## Undesirable effects

The possible undesirable effects due to the use of Takipril are generally similar to the undesirable effects of other local anaesthetics for spinal anaesthesia from the amide group. The undesirable effects induced by the medicinal product are difficult to distinguish from the physiological effects of the nerve block (e.g. reduction in arterial pressure, bradycardia, temporary urine retention), from direct effects (e.g. spinal hematoma) or the indirect effects (e.g. meningitis) of the injection or from the effects due to the loss of cerebrospinal liquid (e.g. post-spinal headache).

Undesirable effects are listed according to their frequencies as follows:

Very common: ( $\geq 1/10$ )  
Common: ( $\geq 1/100$  to  $< 1/10$ )  
Uncommon: ( $\geq 1/1000$  to  $< 1/100$ )  
Rare: ( $\geq 1/10000$  to  $< 1/1000$ )

The signs of intoxication from local anaesthetics are similar for any injected preparation, both in the way in which they manifest, and in their treatment.

## System organ class

Blood and lymphatic system Disorders:  
Rare: Methemoglobinemia, Cyanosis.

## Immune system disorders:

Rare: Anaphylactic shock, anaphylactic reactions, allergic reactions, itching.

## Nervous system disorders:

Common: Paresthesia, Dizziness.

Uncommon: Signs and symptoms of CNS toxicity (convulsions, circumoral paresthesia, loss of consciousness, shaking, feeling of numbness affecting the tongue, speech problems, hearing problems, tinnitus, visual problems).

Rare: Arachnoiditis, neuropathy, lesions of peripheral nerves.

## Eye disorders:

Rare: Diplopia.

## Cardiac disorders:

Uncommon: Bradycardia.

Rare: Cardiac arrest, arrhythmia.

## Vascular disorders:

Very common: Hypotension.

Uncommon: Hypertension.

## Respiratory, thoracic and mediastinal disorders:

Rare: Respiratory depression.

## Musculoskeletal and connective tissue disorders:

Uncommon: Back pain, temporary muscle weakness.

## Gastrointestinal disorders:

Very common: Nausea.

Common: Vomiting.

In spite of the demonstrated high clinical tolerability of Takipril, undesirable toxic effects cannot be excluded in the presence of plasma levels above a critical threshold. These undesirable effects mainly manifest as symptoms affecting the central nervous and cardiovascular system. The most effective prophylactic measures are scrupulous compliance with the recommended posology for Takipril, with it being essential for the doctor to check its action (visual and verbal contact with the patient), as well as careful aspiration prior to injecting the solution. Mild undesirable effects (feeling dizzy or dazed) can be attributed to moderate overdose and generally resolve rapidly after reducing the dose or halting administration of Takipril.

Serious undesirable effects are attributable to significant overdose and/or accidental injection of local anaesthetic into a blood vessel. They manifest as symptoms affecting the central nervous system (restlessness, speech problems, disorientation, dizziness, muscle contractions, cramps, vomiting, loss of consciousness, respiratory arrest and mydriasis) and the cardiocirculatory system (raised arterial pressure and pulse frequency, arrhythmia, drop in arterial pressure, asystole) following irritation and/or depression of the cerebral cortex and the cerebral marrow. In addition, following inhibition or block of the cardiac conduction system, cardiac frequency may slow down and myocardial depression may occur. Any problems relating to metabolism (liver) or excretion (kidney) of Takipril should also be considered as other possible causes of undesirable effects.

## Warnings

Keep out of the sight and reach of children.

## Directions for proper use:

5 ml ampoules of solution for injection are exclusively single-use. Any remaining product must be disposed of.



## Note

Prescription only

Not all products are registered and approved for sale in all countries or regions. Indications of use may also vary by country and region. Please contact your country representative for product availability and information.

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