



User Manual



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ITEM CHECKLIST

When you receive your Penguin Cold Caps, please check that you have received all of the equipment and no damage has occurred during shipment.

The items you should have received are:

- 3 Gel Cold Caps
- 3 Gel Headbands
- 2 Black Velcro Straps (1 gold for thick hair only)
- 20 Extra Plastic Freezer Bags (number and place Caps in these in the cooler)
- 8 Forehead liners, Moleskin, and Cotton Rounds (to protect exposed skin and ears)
- 1 Infrared Thermometer
- 1 Probe Thermometer (as backup only)
- 1 Permanent Marker Pen
- 1 Pair Dry Ice Gloves
- 1 Wide Tooth Comb
- 1 Satin Pillowcase
- 1 Water Bottle
- 1 Hair Net (some like to wear under the Cold Cap to prevent hair pulling when changing caps)
- 1 Cooler (if applicable)

Useful Items From Home

- Cell Phone to be used as timer
- Cell Phone Charger
- Pencil & Paper
- Throw Blanket or Electric Blanket
- 2 Hand Towels (to wipe condensation from the Caps)
- Scissors & Gauze (for covering any other bare skin)
- Spare AAA Batteries (for thermometer)



DESCRIPTION OF ITEMS

Cold Caps

Our special Crylon Gel filled Caps will mold to fit each individual's unique head shape. This ensures good conductivity of the Cap to the scalp.

Gel Headbands

Our Gel Headbands are filled with our special Crylon Gel and are used to add extra coldness along the hairline and the nape of the neck. This is because these areas are the most common places to shed hair.

Place centre of Gel Headband at the nape of the neck, along the edge of the Cap, along the hairline. The headband will go over top of the black strap.

Secure with the velcro tabs at the forehead (should lay overtop of the black strap)

The Gel Headband will be the last to go on.

Velcro Straps

Two black velcro straps are provided. The purpose of the black velcro straps is to pull the back of the Cap against the back of the head at the nape of the neck. They also will push down the sides of the Cap.

A gold strap is provided only if you have thick hair to help pull the top of the Cap down on the head to provide good conductivity. It is not needed for thin-medium hair thickness as it would cause the scalp to get too cold.

Tip: DO NOT OVER TIGHTEN THE STRAPS!

The first black strap will be placed at the nape of the neck and pulled up on each side of the Cap, over the ears, to the front of the Cap.

The second black strap is used as added reinforcement, or to be used as needed, to close down any gaps that you may have.

If you have received a gold strap then please put the centre of the gold strap at the top of the Cap and secure it under the chin. If the top of your head feels to be getting to cold then please discontinue using the gold strap.

Extra Plastic Freezer Bags

These bags are used to protect each Cap – please ensure that each Cap is inside one of these bags while they are in the cooler and while they are stored between treatments.



Forehead liners and Moleskin

These should be cut to fit the shape of your forehead to protect your skin from the cold. The forehead liner should stick onto your skin with the moleskin added as a layer on top.

Infrared Thermometer

Press trigger to turn on.

Make sure display reads in Celsius by pressing "C/F" button.

Aim the thermometer at the centre of the Cap and press the trigger. Read the thermometer after 5 seconds. Do not check the temperature anywhere else on the Cap. If the display reads "LOW" the cap is too cold for the infrared thermometer to read (below -50C). If the Cap is too cold, wait for the Cap to warm up to the correct temperature by kneading it with your hands/forearms and wiping the condensation and then take the temperature reading again. If the Cap is not cold enough (this is rare), place the Cap back into the cooler white/gel side down on the ice for about ten minutes and then try again.

A probe style thermometer has been provided as a backup in case there are any difficulties using the infrared thermometer, however using the infrared thermometer is recommended.

Permanent Marker Pen

Use this to write Cap/Headband numbers on the Plastic Freezer Bags to make it easier to keep track. **Please do not write directly on the Caps.**

Wide Tooth Comb

Use this wide tooth detangling comb after washing your hair and be extra gentle – starting with the ends and holding hair near the roots to prevent pulling.

Dry Ice Gloves

Use these gloves to handle the dry ice – handling dry ice with bare hands will result in burns to your skin.

Satin Pillowcase

Use this Satin pillowcase throughout your treatment. Satin pillowcases are known to be extra gentle on your hair – every little bit counts!

Water Bottle

Drinking plenty of water while you're undergoing treatments will help to keep you hydrated and flush the chemotherapy drugs from your system faster – both things that will help your hair.



OVERVIEW OF THE PROCESS

The Caps are worn for three time periods during your treatment:

1. Before (pre-cooling) - to initiate the hair follicles' dormant state before infusion
2. During – while the chemotherapy drugs are being administered
3. After treatment – each chemotherapy drug lingers in the body for a different amount of time. Your personal schedule will take this into account and recommend the optimum amount of time to continue capping post-treatment.

The Caps & Gel Headbands are worn and rotated throughout the cooler every 25 minutes - one Cap and one Gel Headband are in use, and 2 Caps and 2 Gel Headbands are cooling in the cooler.

Retrieve the Cap from the bottom of the cooler to replace the expired Cap. Once the cooled Cap has replaced the expired Cap, place the expired Cap at the top of the cooler between the top and middle layer of dry ice.

REMEMBER:

The next cap you will put on your head always comes from the bottom layer of the cooler.



Below is a step-by-step overview for using the 3 Cap Dry Ice Method.

“Penguin Cold Cap Therapy isn’t hard it’s just effort & a commitment.”

- Step 1: [Store the Caps & Gel Headbands](#) in your home freezer between treatments – remove and allow to thaw 1-2 days before treatment
- Step 2: [Purchase 50 lbs. of dry ice](#) for treatment day (add 1-2 lbs. for every hour if purchasing the day before)
- Step 3: [Prepare your cooler](#) 2 hours before your main infusion time
- Step 4: Arrive at your treatment centre and follow your personalized schedule (Cap changing times & temperature for before, during, & after infusion)
- Step 5: Clean, dry, and then store the Caps and Gel Headbands back in your home freezer until your next treatment

STORING THE CAPS & GEL HEADBANDS

Penguin Cold Caps & Gel Headbands need to be stored in your home freezer when not in use and taken out to thaw to room temperature 1-2 days before putting them on dry ice for your treatment. Freezing them between treatments helps to prolong the life of the gel and ensure the gel is in perfect condition for your treatments. If you receive the Caps 1-2 days before your treatment, store in a cool dry place until your treatment day. Store the Caps flat - white side to white side & blue side to blue side.

Tip: After treatment, lay the Caps, Gel Headbands and numbered cap bags out to dry in a cool, dry, safe area away from pets. When dry, place the Caps back in the numbered cap bags and place in your home freezer until 1-2 days before your next treatment.



PURCHASING DRY ICE

You will need to have 50 lbs. of dry ice right before your treatment. You can either purchase the dry ice on the day of treatment or the day before, depending on your dry ice supplier's hours and your treatment time. If you are purchasing dry ice the day before, obtain approximately 1-2 lbs. extra for every hour not in use. Be sure to fill any extra cooler space with towels to remove air space to slow the sublimation process (the process of dry ice converting to CO₂ gas as it "melts"), but also leave the cooler lid slightly ajar to allow CO₂ to escape.

Eg: If your treatment time is 9am, 75 lbs of dry ice purchased the afternoon before would suffice if your cooler is packed as described above.

Dry ice can be purchased in 2 forms:

Slab Form: If purchasing dry ice in slab form you will need 3 layers for the cooler. The ends of the packaging should be cut when you are [packing your cooler](#) on treatment day to allow the maximum cold to be released.

Pellet Form: If purchasing dry ice in pellet form ask for the pellets to be divided into 10 lb bags – place some small holes in the bags when you are [packing your cooler](#) on treatment day to allow the maximum cold to escape. Alternatively, if the dry ice pellets come in one large bag you can divide them into ~15 large zipper top freezer bags at home, just be sure to poke a few small holes in each bag to let the CO₂ gas escape as the dry ice sublimates. The freezer bags can be saved and refilled with fresh dry ice before each treatment.

Tip: Dumping pellets directly into your cooler without dividing into bags is not recommended as this makes it difficult to rearrange the Caps and ice in the cooler during the capping process.

Safety Checklist:

- ✓ Store the dry ice in a cooler in a ventilated room/area
- ✓ Leave the cooler lid slightly ajar to allow CO₂ gas to escape as the ice sublimates
- ✓ Do not store the cooler with dry ice in a room where someone sleeps
- ✓ Do not touch dry ice with bare hands
- ✓ Ask your dry ice supplier for further safety instructions for handling and transporting dry ice



PACKING YOUR COOLER ON TREATMENT DAY

Included in the items you have received are 20 Extra Plastic Freezer Bags for storing the Caps and headbands, and a Permanent Marker for numbering the bags to keep track of their placement in the cooler during the capping process. These Cap/Headband bags can be dried and reused after each treatment, but these extra bags are supplied if needed to make sure that the Caps are always stored in clean bags.

1. Use the permanent marker to number three Cap bags, and three Headband bags with the numbers 1-3.
2. Place each Cap inside a numbered bag, folding each chin strap toward the blue side of each Cap and securing with Velcro to ensure the white gel side of each Cap will have unobstructed contact with the dry ice.
3. Place each Headband inside a numbered bag, folding in half along the blue side so that the white gel side of each Headband shows outward.
4. Refer to [Fig 1 – CAP AND HEADBAND PRE-COOLING PROCESS](#) for timelines and procedures.

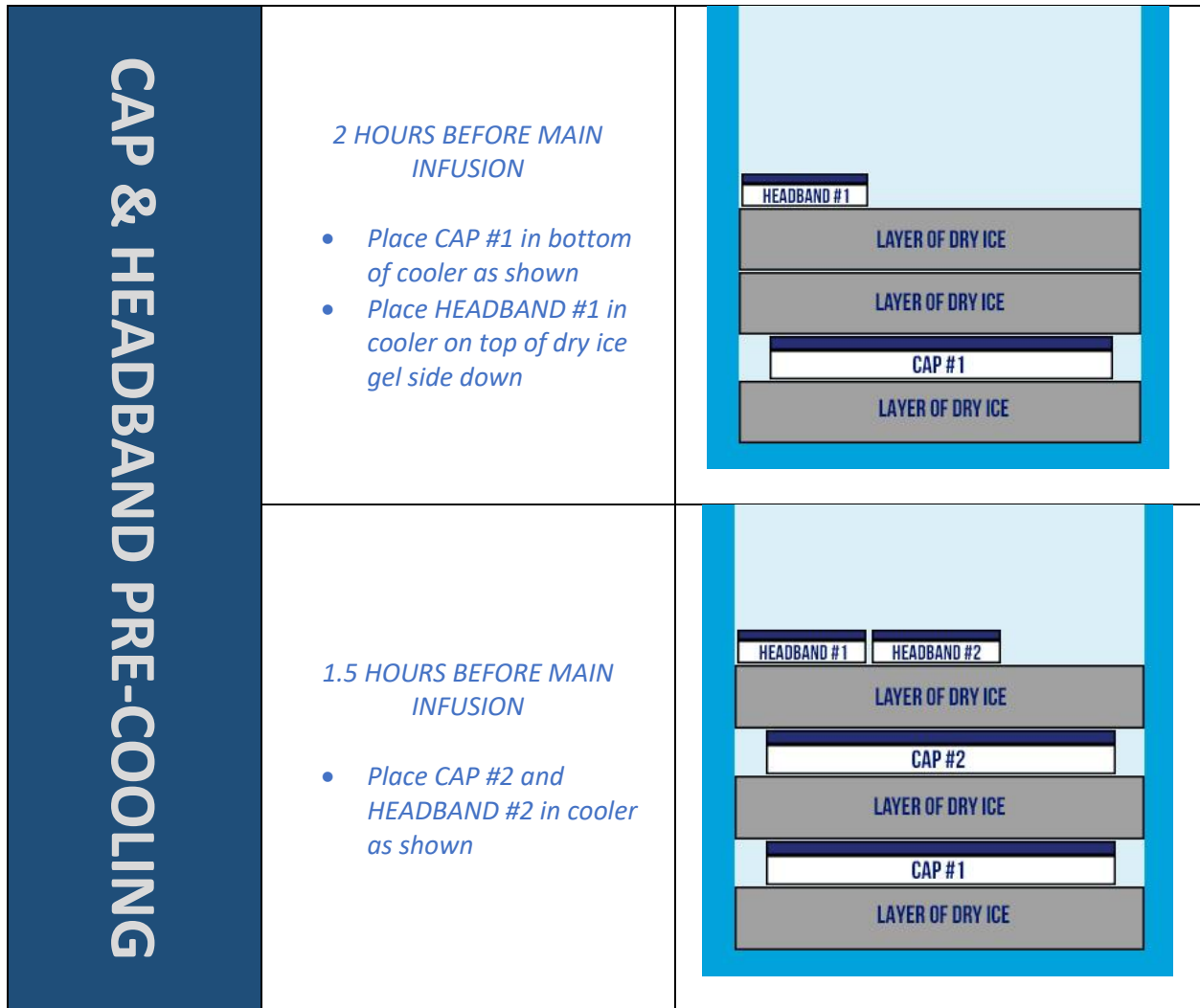
IMPORTANT:

The Caps & Gel Headbands must NOT be placed into dry ice overnight. This will cause them to become way too cold for your treatment (dry ice is -78°C) and may damage them.

Caps take approx. 60 min to reach the optimal temperature in the cooler from room temperature.

CAP AND HEADBAND PRE-COOLING PROCESS

Fig. 1 –CAP AND HEADBAND PRE-COOLING PROCESS





PREPARING TO START

Before beginning, please refer to the personalized schedule sent to you by your Penguin representative. This will outline your optimum temperatures and your recommended duration for post cooling which is determined by your drug regimen and other personal factors.

Forehead liners (panty liners), moleskin, gauze, and/or cotton rounds should be used to protect any areas of skin (forehead, temples, ears, thinning hair/bald spots etc.) that is exposed to the Cap. Moleskin is very effective, but the adhesive is very strong – layering the moleskin on top of the forehead liner before applying to the forehead is a solution for this. Cut the moleskin and forehead liner to fit the shape of your forehead - position them close to the hairline without covering it. The forehead liner should stick onto your skin with the moleskin added as a layer on top. The hair net can be used to help to keep your hair from getting caught in the Velcro straps of the Cap, and it will also help to hold the cotton rounds on your ears.

Start pre-cooling the scalp 50 min before the start time of the main infusion (pre-cooling can be done at the same time as the pre-meds infusion, if any). Your medical team can confirm the length of pre-meds, if any.

If there are any delays and you don't start on time, simply keep rotating the Caps on your head by taking the bottom Cap from the cooler and placing the expired Cap back in on top.

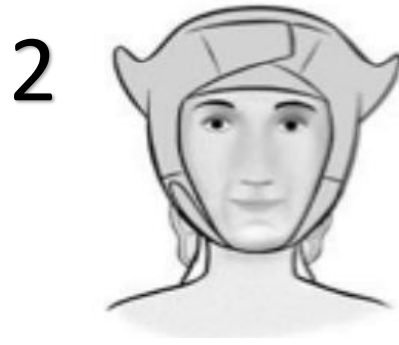
HOW TO PLACE YOUR CAPS & GEL HEADBANDS ON YOUR HEAD

- Apply the Cap to the scalp as indicated in Fig 2 below.
- Secure the Cap with both black velcro straps. (gold if applicable). The first black strap will be placed at the nape of the neck and pulled up on each side of the Cap, over the ears, to the front of the Cap. The second black strap is used as added reinforcement, or to be used as needed, to close down any gaps that you may have. If you have received a gold strap, please put the centre of the gold strap at the top of the Cap and secure it under the chin. If the top of your head feels to be getting to cold then please discontinue using the gold strap.
- Place centre of Gel Headband at the nape of the neck on the edge of the Cap and pull towards the front of the Cap. The Gel Headband will follow the lower edge of the hairline and attach above the forehead, using the velcro tabs.
- Keep the Cap & Gel Headbands on the head for 20 min during pre-cooling and 25 minutes for main infusion and post cooling.
- Knead the Cap every 10 minutes for 5 seconds to redistribute the cold.

Fig 2. HOW TO PLACE THE COLD CAP ON YOUR HEAD



Place the gel side of the Cap on the top of the head and fasten the chin strap. This can be loosened to comfort once the Cap is fitted.



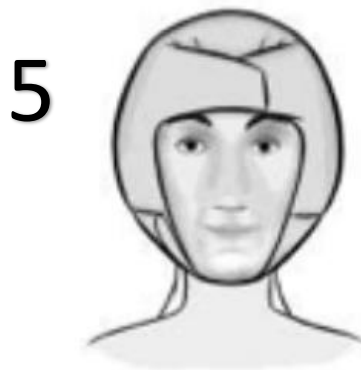
Fasten the forehead velcro tabs and level the front edge of the Cap to just above the eyebrows. This will raise slightly as the other velcro tabs are affixed.



Hold the back of the Cap firmly against the back of the head.



Fasten the back velcro tabs (4) tightly to the head.



Release the chin strap, which will be pulling tight. Re-affix to a comfortable tension. All of the velcro tabs can now be adjusted/tightened to achieve good contact with the scalp.

Fig. 3 COLDCAP DIAGRAM

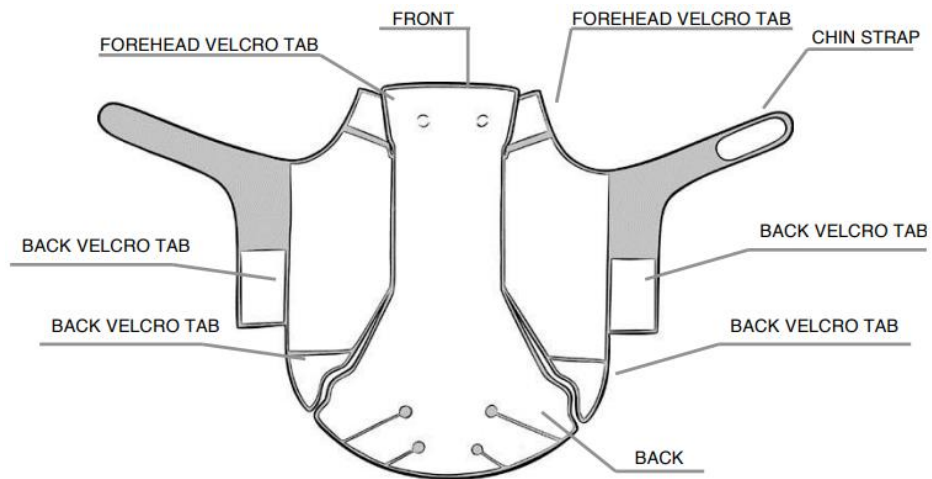


Fig 4 - THIS IS HOW YOUR COLD CAP SHOULD LOOK



SCALP PRE-COOLING PROCESS

REMEMBER:

During pre-cooling Caps are changed every 20 min

Precooling = 50 min

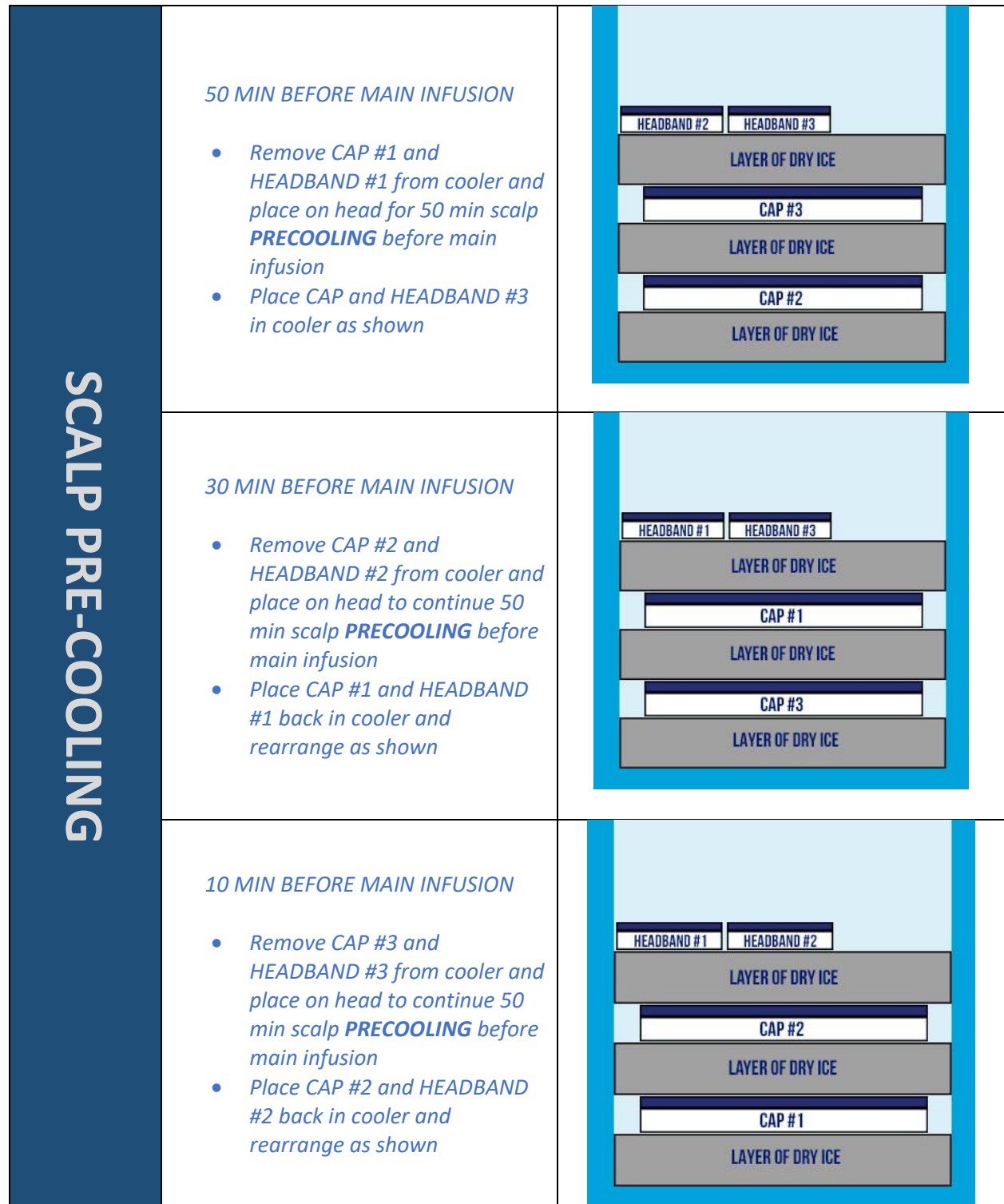
The Cap you will put on your head always comes from the bottom layer of the cooler.

- Remove the Cap from the plastic freezer bag and allow to rest for 3 min.
- Knead the Cap to help soften and evenly distribute the coldness and the gel. Wipe the frozen condensation off with a towel.
- Check the temperature of the Cap by aiming the thermometer at the centre of the Cap on the white (gel) side. See Fig. 5.
- Refer to Fig 6 for Scalp Pre-Cooling Process

Fig. 5 AIM THERMOMETER AT CENTRE OF CAP



Fig. 6 –SCALP PRE-COOLING PROCESS



MAIN INFUSION AND POST-COOLING PROCESS

REMEMBER:

During main infusion Caps are changed every 25 min

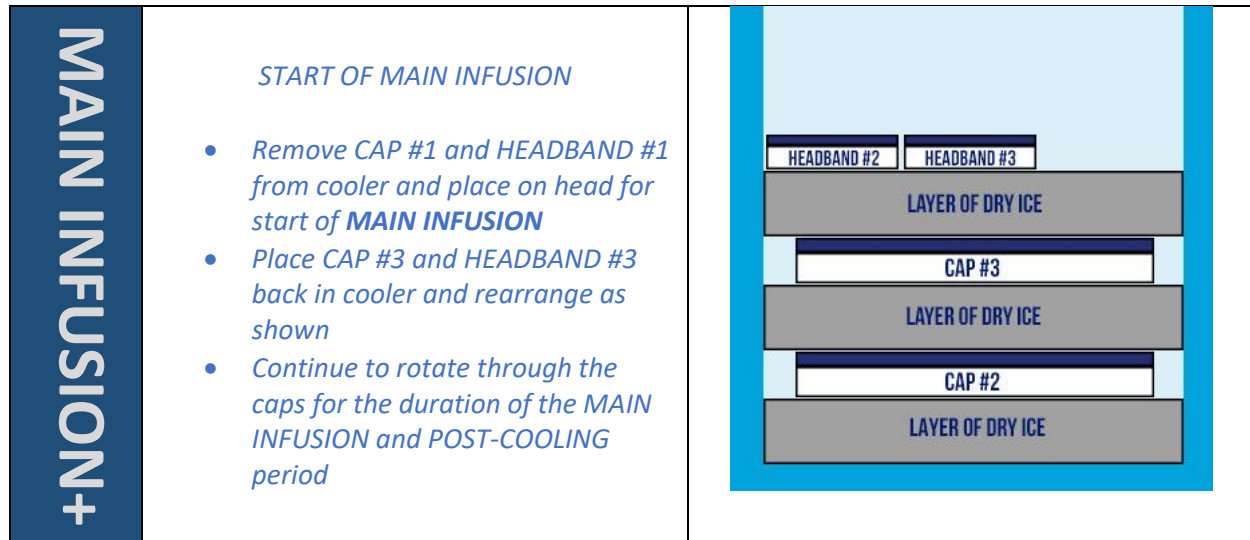
The next Cap you will put on your head always comes from the bottom layer of the cooler.

- Remove the Cap from the plastic freezer bag and allow to rest for 3 min.
- Knead the Cap which helps to soften and evenly distribute the coldness and the gel.
- Wipe the frozen condensation off with a towel.
- Check the temperature of the Cap by aiming the thermometer at the centre of the Cap on the white (gel) side. See Fig. 7. If the display reads “LOW” the cap is too cold for the infrared thermometer to read (below -50C).
- Refer to Fig 8 for Main Infusion and Post-Cooling Process

Fig. 7 AIM THERMOMETER AT CENTRE OF CAP



Fig. 8 –MAIN INFUSION AND POST-COOLING PROCESS



END OF COLD CAP THERAPY

- After treatment, clean the Caps and Gel headbands with a damp cloth or alcohol wipe and lay them and the numbered Cap bags out to dry in a cool, dry, safe area away from pets. When dry, place the Caps and headbands back in the numbered Cap bags and place in your home freezer until 1-2 days before your next treatment.

IMPORTANT NOTES

- The Caps are extremely cold and it might take some time to adjust to this extreme cold temperature on your scalp. Some clients do not experience any discomfort, but some find the first 8 minutes are the most uncomfortable and after this period the sensory nerves in the scalp are numbed and the Caps are easily tolerated.
- Increase your fluid intake starting two days before treatment until two days after treatment.
- Before treatment day – confirm the start time of your main chemotherapy infusion with your clinic. Some regimens begin with “pre-meds” and some do not – your pre-cooling start time starts one hour before your main infusion. The pre-medication time does not count as the start of main infusion.



- When exchanging a Cap, remove the expired Cap from the head and replace it as quickly as possible with a new Cap from the cooler
- It is advisable to have a spare set of “AAA” batteries for the thermometer.
- DO NOT wash hair 2 days before or 2 days after treatment. Wash hair on the 3rd day after treatment
- DO NOT cut your hair more than a trim before you start your treatment; do not color your hair within 2 weeks before treatment if possible.
- DO NOT wet or dampen the hair. DO NOT put conditioner or oil on your hair or scalp. Your hair should be dry while wearing Penguin Cold Caps.
- Important that the blue material of the Cold Cap must be completely dry before cooling on dry ice.
- If you have Reynaud’s disease or are receiving the drug Oxaliplatin for your treatment or have spinal or neck injury please address these concerns with your Consultant.
- Wear gloves and safety glasses when handling the dry ice and do not touch dry ice with bare hands or skin
- The following could damage the caps and affect your security deposit
 - The Caps & Gel Headbands must NOT be placed into dry ice overnight.
 - Keep the Caps in freezer bags when packing the cooler.
 - Do not write directly on the Caps.
 - Do not bend the caps if they have been in the cooler too long and are frozen solid – this could cause them to crack. Use the infrared thermometer to check the Cap’s temperature and allow them to warm to above -40C before bending.



EMERGENCY PROCEDURES

WHAT TO DO IF A CAP IS PUNCTURED WHEN IN USE:

- Immediately remove and exchange for another Cap. Place the damaged Cap back inside its freezer bag and store to one side.
- If the gel of the Cap or Gel Headband has leaked onto the skin, wipe off with tissue or cloth and wash with soapy water.
- If the gel of the Cap has accidentally entered the eyes, wash out with saline solution and for safety seek medical help.
- The gel is non-toxic and non-caustic.

Please call or text our office at 1-888-368-3818 if you have any questions/concerns on treatment day or if you have any trouble with anything. That is what we're here for!

RETURNING YOUR KIT

- Check for damaged caps - if any are damaged, email us with a description of the damage and the number on the chin strap.
- Please ensure that the caps are thawed, dry and cleaned (preferably with alcohol wipes).
- Please remove all hair from the velcro straps and tabs on the Caps.
- Place Caps and Gel Headbands in their plastic bags and pack along with the 2 Black Velcro straps, 1 Gold Velcro strap (if applicable), Thermometer, Gloves, and cooler (if applicable).
- Include a piece of paper with your name, address, phone number and email inside the shipping box.
- Send us an email with tracking number to support@penguincoldcaps.ca

Please return all rental items to:

Penguin Cold Caps Canada
701 Rossland Rd. E.
Suite 343
Whitby ON
L1N 9K3