

# MESSENGER

Your Supplies -

News and Information from **BERENTT**

## Competition - The Name of the Game

**N**o doubt you are all now well and truly aware of recent events involving Landauer Radiopharmaceuticals P/L (LDRP) and Cyclomedica Australia P/L (CMAPL). LDRP was Berentt Medical Technology's legally approved distribution partner! As such, I thought that LDRP owed Berentt Medical Technology a duty of allegiance to support and increase the Berentt Medical Technology business. Seems not!! LDRP sold 'their Technegas' business to CMAPL, a competitor of Berentt Medical Technology!! This negotiation must have occurred over several months during which LDRP was BMT's 'approved' and 'trusted' distributor. Ironic huh?? Recent announcements from our competitors (CMAPL) lauding this successful sale would lead you all to believe that CMAPL has taken over from Berentt Medical Technology (BMT) and that Berentt Medical Technology is no longer supplying you with Patient Administration Kits (PAKs).

### Nothing could be further from the truth.

Berentt Medical Technology (BMT) holds the TGA approved license to import and sell Patient Administration Kits (PAKs), ARTG # 319260. Most important for our loyal customers, Berentt Medical Technology (BMT) has the license, the man-power, the ability and, most crucially, the stock to continue to supply your PAKs needs! You need not fear or be confused by these misleading announcements.

**With immediate effect all orders for PAKs and service agreements should now come direct to Berentt Medical Technology.**

Some people may look at this 'collusion' between LDRP and CMAPL as bitterly disappointing but I regard it as a great opportunity for Berentt Medical Technology to deal on a more personal basis with its growing list of customers in Australia! I'll leave you to draw your own conclusions regarding the ethical and moral issues.

*Please contact myself at -  
cfbut@bigpond.com or on  
0404 842 237  
to place consumables orders or*

*Richard Gotch at -  
rgotch@hotmail.com or on  
0448 010 445 for all service and main-  
tenance enquiries.*

We wish to thank and encourage all of our loyal customers and ask for the support of newer clients in our on-going evolution. Always remember, it is only the competition that Berentt Medical Technology (BMT) is providing that is keeping prices as low as they are!

In certain countries in Europe, where Almedis/ Berentt does NOT provide competition to CMAPL the price of a box of consumables can vary from 3,000-4,000EUR per box of 50 consumables and in Finland the price is about 5,000EUR.

Further, Mr J. S. Brayer's recent pronouncements to the ASX 'seem' to suggest that the entry cost into

the U.S.A. market, for a box of 50 consumables, will be around USD 7,000.00!!! That is over AUD 10,000.00 per box!! I might have missed something so I stand to be corrected. (see public Announcements to ASX of Webinar presentation 05/10/23 and reimbursement update of 15/11/23).

However, competition is what drives prices lower. Take a look at what is happening in Australia for example: When Charter Main/BMT began competing in 2019, CMAPL maintained their prices, \$400.00 to \$500.00 HIGHER than BMT's. Now in 2023, CMAPL is 'matching' BMT's prices!! BMT has been consistently charging a fair price for PAKs.

You, the consumers are the beneficiaries!!



*Charles Buttigieg*



**Vale Dr W (Bill) Burch.**

It is with deepest regret that we inform you of the death of the inventor of Technegas, Dr Bill Burch on Tuesday the 5th of December after a long illness. A more fitting tribute to Mr Technegas will appear in the next newsletter. R.I.P.

# 'Rise' Temperature and the production of Technegas

**In this issue of Berentt Medical Technology's newsletter, I would like to address the matter of "rise" temperature and production of Technegas.**

Firstly, while warnings of the issue of thyroid uptake occurring during a V/P (Ventilation/Perfusion) S.P.E.C.T. scan, seems to have disappeared from the manufacturer's User Manual, we believe that it remains a potential complicating factor in the interpretation of the V/P scan. A review of the User Manuals going back to 1997 indicates that in recent times (12th August, 2021) warnings about thyroid uptake no longer appear. I am ready to admit that I may have missed any such statement, but I could not find one in the latest iteration of the User Manual. As we all know, thyroid uptake with Technegas largely occurs if:

- 1) Argon gas is NOT high purity. Argon gas with even as little as 1-3% oxygen can result in the production of pertechnegas which can readily cross from the alveoli into the circulation and be imaged thereby confusing the V/P S.P.E.C.T. scan. This could potentially be a problem in pregnant women where quite often the Ventilation is omitted and only low-dose Perfusion scan performed.
- 2) Over-filling the crucible. The simmer temperature is calibrated at 70C. The correct gas-flow of Argon serves to maintain the right temperature. Over-filling the crucible results in too much pertechnetate

in the crucible (convex) and when argon is passed over the crucible during the Technegas production process, excess pertechnetate is blown out of the crucible and is NOT heated to 2,750C. Free pertechnetate is produced (not bound to carbon) and thyroid imaging occurs.

- 3) Old or Damaged Hoses. Be careful of trailing Argon hoses and power leads. The regulator, hose and power connections need to be carefully maintained.

- 4) Improper Wetting of the Crucible. If the crucible is not properly "wet" before the simmer occurs, pertechnetate may be "blown" out of the crucible and again, free pertechnegas produced. Air bubbles can be formed if the crucible is not properly moistened to prevent the formation of air-bubbles. The crucible MUST be wet with alcohol prior to the simmer!

- 5) Free Pertechnetate. In essence, it is FREE pertechnetate which results in thyroid uptake NOT brass in the contacts (see Edition 5 for Dr Burch's [inventor of Technegas] assessment of such claims).

- 6) Contacts need to be firmly tightened. When changing the contacts, they must be firmly tightened and recessed to ensure proper electrical contact.

- 7) Crucibles need to be properly seated. When the crucibles are inserted, they must be rotated several times until a squeak is heard to ensure proper electrical conductivity.

So, where does that leave us? From the documentation we have seen, it would appear that thyroid uptake with Technegas is no longer an issue since it is not mentioned in any of the recent Technegas User Manuals.

However, this is somewhat curious since, up until recent times, thyroid uptake with Technegas was constantly mentioned in ALL of Cyclomedica's User Manuals (at about page 32-36 depending on which version you are looking at) as a special note on the reason why thyroid uptake is seen on V/P scans!!

It is even more strange since the medical literature mentions thyroid uptake, not infrequently, as an observation with the use of Technegas going back to the earliest days of planar imaging in the late 80's.

This note has now been deleted while much noise is being made about the value of brass in the contacts. I hope that Dr Burch's comments in a previous issue of this newsletter (V2/N2 — November 2021), put that misconception to rest.

Which brings us to the issue of 'rise' temperature and production of pertechnegas. Statements are being made that the 'rise' temperature is not reached quickly enough if there is no brass in the contacts and this leads to the production of pertechnetate which, as we know, is a clearance agent and readily crosses from the alveolus of the lung into the lung

capillaries and may result in thyroid imaging if the F.O.V. is large enough.

I must admit that I was ignorant of what “rise” temperature was until recent times. Let me explain what this is.

After the simmer stage in the production of Technegas which dries the crucible and coats the inside walls of the crucible with Technetium-99m, there is a “Burn” stage which actually generates the Technegas. Carbon lifts off the crucible and encapsulates the Technetium-99m in a carbon matrix. At this point the crucible is heated to approximately 2,750 C within 1 second or so and maintains this temperature for 15 seconds during the burn.

This is the so-called ‘rise’ time. It is erroneous to suggest that variation in the “rise” time leads to the production of pertechnegas!! This is simply UNTRUE. Let’s review the FACTS:

1) The almedis consumables use SOLID CARBON CONTACTS, not brass and carbon contacts (see previous edition for the comments of Dr W Burch regarding the value of brass and carbon).

2) The “rise” time of the almedis contacts is about 0.9 seconds, well within the Technegas generator’s parameters of acceptability.

3) This temperature of 2,750 C is then maintained for 15 seconds.

4) Repeated testing by almedis has verified this AND hundreds of thousands of ACTUAL patient studies going back to 2002, attest to the efficacy of this product

5) In Australia, almedis has registered the large volume carbon crucibles (0.3ml capacity) and plastic delivery tubing as a medical device (ARTG # 319260)

6) At the very heart of Technegas production is the carbon and carbon crucibles, without which NO TECHNEGAS would be produced.

So, let’s be clear. To produce Technegas the following procedure needs to be followed:

1) The contacts MUST be changed every 50 burns.

2) The crucibles MUST be seated correctly and twisted until a squeak is heard.

3) The crucible MUST be moistened with alcohol (see above).

4) The level of pertechnetate, in the 0.3ml crucible, MUST be concave.

5) The generator MUST be regularly serviced and cleaned.

6) Simmer temperature and Burn temperature MUST be in spec.

7) Flow of Argon MUST not be too high or too low as indicated by the generator

During the 6 minutes simmer, all of the air in the chamber is replaced by Argon and when the Burn occurs, the optical sensor views the burn from the “rise” through to the burn plateau when Technegas is being produced.

The generator then provides the following message ‘Burn Verified’.

If the preceding has all been followed and the ‘Burn Verified’ message received, TECHNEGAS HAS BEEN PRODUCED!

## Christmas Greetings from Berentt Medical Technology



On behalf of Berentt Medical Technology (BMT) and our partners at Almedis GmbH, we wish all of our colleagues in nuclear medicine a happy and safe Christmas time and a prosperous and healthy 2024!!

For many of you it will be business as usual treating ill patients while the rest of us enjoy and Turkey and plum pudding surrounded by family and friends. We thank you for your commitment to the job and salute you for your dedication.



2023 certainly provided its challenges! However, through it all BMT has survived, providing service and competition in the market place and will continue to do so in the coming years.

To all supporters of BMT, thank you from the bottom of our hearts, your confidence in BMT is deeply and gratefully acknowledged. To all others, jump on board and support BMT; you will not be disappointed.

### Enjoy Christmas and have a great 2024!



From Charles and Rick  
and the  
Team at BMT  
and Bjorn and the  
Team at Almedis GmbH.



# Solid carbon contacts and Technegas generator life-cycle.

**Let's be clear: Brass was not part of the original contact structure: it was gunmetal.**

This gunmetal/carbon product was time-consuming and expensive to produce so the DECISION was made to use brass instead. Truth be told, many other metals were tested but brass was chosen because it was reliable, easy to manufacture and IT WAS CHEAP!!

This gunmetal/carbon was successfully used in the field for decades before the change to brass/carbon was made.



*Brass and Carbon.  
Yesterday's technology.*

It seems that solid carbon contacts are now being blamed for reduced longevity of the Technegas generators!! That is, if you use solid carbon contacts, extra load is being put on the generator during Technegas production leading to a reduced life span of the Technegas generator!!

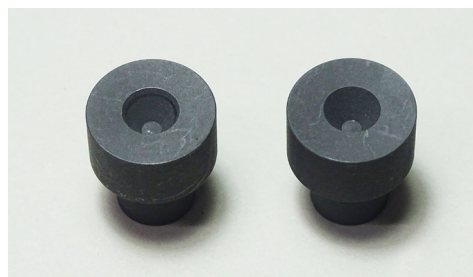
THIS IS TOTALLY UNTRUE!

Servicing of Technegas generators by inexperienced technicians can lead to mistakes being made and false information being disseminated.

For example: it is totally untrue that solid carbon contacts can cause extra load on the Technegas generator than it was designed for thereby leading to carbon build-up in the contact seat and diminishing the life-cycle of the Technegas generator!! These are the comments of inexperienced Technegas engineers, ignorant of the facts!

We would add:

1) Solid carbon contacts should work better than brass and carbon.



2) The solid contacts and crucibles have been extensively tested at the ANU in Canberra and other universities around the world and been shown to be at least the equivalent of the brass and carbon. The crucibles were fully registered with TGA

(ARTG 319260) following rigorous evaluation.

3) Solid carbon contacts have been in use in Europe, most particularly Germany, in Technegas generators, in hundreds of thousands of patients since the 1990's.

4) Inexperienced service engineers often make the mistake of adjusting the generator in an incorrect manner when they are trying to set the burn temperature.

5) Our service engineer and I would be more than happy to prepare a statement for whatever authority attesting to these comments.

6) The longevity of the device WILL NOT be compromised through the use of solid carbon contacts.

**Note:**  
**Your complete box of  
Patient Administration Kits  
PAKs**  
  
**from  
Berentt Medical Technology  
comes with a new set of  
solid carbon contacts  
for your generator**

# Reliable Trustworthy and Fair

Berentt Medical Technology (BMT) has maintained its Patient Administration Kit (PAK) prices since 2019.

We have tried to charge a fair price per box of 50 consumables and avoid 'price gouging' simply because we could!!

Since taking over the running of the business from Landauer Radiopharmaceuticals P/L (LDRP), I have discovered that customers are paying different prices for no good reason.

So, please let me state Berentt's prices, effective 1st January, 2024, for all customers so that there is no confusion.

A box of 50 PAKs which includes 50 X 0.3ml crucibles,  
a set of solid carbon contacts and delivery tubing  
(BMT001) - \$2350.00

Pack of 0.3ml large volume crucible X 10  
(BMT002) - \$200.00

Set of solid carbon contacts  
(BMT003) - \$100.00

Annual Service Agreement  
(BMT004) - \$2,000.00

Delivery charge: up to 3 boxes (anywhere in Australia) --- (BMT005) -  
\$100.00

Please Note: Prices quoted are Ex-G.S.T

*Furthermore:*

***Being told that your Technegas generator cannot be fixed  
and you need to buy a new one?***

***Save yourself tens of thousands of dollars and call***

***Berentt Medical Technology BEFORE you make the decision to upgrade.***

***In the majority of instances, our experienced engineers who have been  
involved since the inception of Technegas in 1986 and have decades of  
experience in designing, developing and maintaining Technegas engineers,  
will resolve the problem and save you a heap of dough!***

# Vent-Medis disposable kit for Ventilation Scintigraphy

**Large 0.3ml  
highest purity  
graphite crucible**



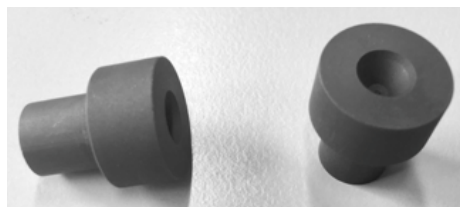
*Vent-Medis Kits include the improved high-purity, high-volume carbon crucible with a 0.3ml bowl capacity. This crucible saves time and minimises multiple simmers allowing the use of dilute Tc-99m generator elutions thus reducing operator radiation exposure.*

**Rugged design  
smooth-bore  
patient  
delivery set**



*The inhalation breathing unit contains a high efficiency HEPA, exhalation filter, T-piece with robust non-return valve, a robust one meter smooth-bore tubing with 15mm inner diameter and the special generator connection. A rigid mouthpiece and a nose clip complete the set.*

**High purity  
and long life  
graphite  
contacts**



*With every Vent-Medis Box you get one pair of high-purity carbon contacts for 50 scintigraphic examinations. The carbon contacts are very robust and fit the Generator specifications with great contact reliability.*

## Vent-Medis Kits

Larger volume crucible equals more efficient use of dilute Tc-99m eluate

High-Efficiency HEPA filter

Time and cost saving

Less radiation through reduced simmers

Improved and more reliable crucible contact

More rugged design

Improved packaging

TGA Certified

Reliability of supply

CE marked

Major price advantage

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*Solutions - Not Questions*