

As with everything in Japan, the Japanese have developed their own unique way of surviving the winter months as well. Read on to learn the best way for you to avoid turning into a large amateur cryogenics experiment.

KEEPING WARM

Ever wondered why during the summer months you could never keep your apartment cool, no matter how high you turned the air conditioner up. Most Japanese apartments have NO, I repeat NO insulation. Only in the last 10 - 20 years have Japanese housing companies caught onto the fact that people like to stay cool in summer and warm in winter. Since most ALT's live in buildings that are older than most (putting it politely), we often have to make do without this luxury.

Home Heating

Probably the best strategy during winter is to designate one room of your apartment the 'warm' room. This will usually be your living room. The next step is to keep it at a toasty temperature. How do I do that?

Kerosene Heaters

This is the most popular kind of space heating in Japan due to the costs involved. An 18 litre container of kerosene can be purchased from your local home store for about 600 yen and this will provide you with about 55 hours of continuous heating at full power (the equivalent of 3000 watts of electrical heating). Mmmmmmmmmmm! There are several types of kerosene heaters available for purchase:

Pot Belly Heaters

In a word. Don't!
They smell, they're messy, difficult to refill without spilling kerosene everywhere, and have I mentioned that they smell.

About the only thing that they have going for them is that they're cheap. You can purchase one at your local home store for around 6-8,000 yen. My advice is to save a little money and get a kerosene fan heater.



Radiant Heaters



They're a little better than the pot-belly heater in terms of their design, but that's about it. They have a lift out kerosene cell inside which means that you don't have to take the whole heater outside to refill them. These things still smell quite a bit when they're heating up and cooling down. Once again, save your money

and purchase a fan heater.

Fan Heaters

These things are the best kind of kerosene heaters. They have electronic ignition, timers, thermostats, lift out kerosene tank, carbon monoxide detectors and a fan to blow hot air around. Oddly enough you'll need to plug them into a wall socket to get them started. Because there is a fan blowing over the combustion chamber, it burns the fuel more efficiently and most of the horrible kerosene smell with it. Price wise, expect to pay around 10-12,000 for the most basic models and up to 40,000 for a nuclear powered furnace of a model that makes you a coffee in the morning and fetches your paper.



Kerosene Tips ('Toiyu' in Japanese)

- Store kerosene on your apartment deck or outside. Refill your tank outside your apartment to avoid getting that horrible smell inside.
- Don't ever refill a hot or operating heater. Turn it off and wait for it to cool down first.
- Use 'fresh' kerosene. Kerosene is an excellent growth medium for bacteria that will harm your heater. Damaged heaters don't burn fuel well and this leads to Carbon Monoxide being emitted = BAD!
- Purchase an electric pump for refilling your heater from the kerosene container. They usually cost around 300 yen for the basic models to 1,500 yen to the ones with an automatic cut out.
- Ensure that the flame colour is **BLUE** in your heater. **YELLOW** flame and soot is a sign that your heater is giving off deadly Carbon Monoxide gas.
- Never go to sleep with the heater running.
- Never use anything but heating kerosene as fuel.

Heaters Need Cleaning Too!

Occasionally every heater will need a bit of T.L.C.

- Make sure that the dust filter on the back of your fan heater is free of lint
- Use fresh kerosene in your heater and make sure that that you use a filter when refilling the tank to avoid getting gunk in there.

Before summer:

- Completely drain your heater and tanks of all kerosene prior to storage. You may need to sit it outside on your deck running to do this.
- Place it inside a rubbish sack to prevent it becoming home to all kinds of creepy crawlies. Put some fresh batteries in there in case you need to use it in a hurry
- Give it a good wipe down and remove any dust and lint from the filters.

WHAT IS CARBON MONOXIDE POISONING?

Carbon Monoxide is a gas given off during 'incomplete combustion'. You can recognise when incomplete combustion is occurring from the presence of a yellow flame, and soot coming out of the heater. Usually this occurs for a number of reasons. Poor maintenance, poor ventilation (clogged filters), poor quality fuel, incorrect operation and bad design are a few of these factors.

When you breathe air in, hemoglobin on the surface of the blood cells, picks up Oxygen (O₂) from the air in your lungs. The blood is then circulated around your body, and when the blood reaches muscle or other tissue, the hemoglobin releases the Oxygen for the tissue cells to use. It then returns to the lungs with Carbon Dioxide (CO₂).

When you inhale Carbon Monoxide (CO). It permanently bonds with the hemoglobin on the blood cells, and prevents the blood from circulating Oxygen around the body.

The symptoms of poisoning include:

- shortness of breath
- nausea
- headaches
- symptoms similar to the 'flu
- dizziness
- mental confusion
- fainting

Extreme levels of Carbon Monoxide (CO) in the air can cause unconsciousness, coma and death within minutes.

If you suspect that you have Carbon Monoxide (CO) poisoning, get to fresh air IMMEDIATELY and then seek urgent medical help. Carbon Monoxide (CO) poisoning can be diagnosed with a simple blood test soon after exposure.

Electric Heaters

Ceramic Heaters

These are the little ones that sit on your floor and blow out hot air. In Japan they usually draw between 800w and 1100w of power when operating at 'full steam'. Because they don't burn fuel to create heat, they are useful for those people who are sensitive to kerosene fumes or have respiratory problems. However, they are considerably more expensive to operate than kerosene heaters. Never operate this type of heater while sleeping.



Radiant Heaters

Very similar in design to the Kerosene radiant heat, but they're powered by electricity than by a liquid fuel. If you prefer, they are also available in a design that closely resembles a 'fan'. This style has an element that can swing in an arc to evenly heat the room. Energy consumption is about the same as for a ceramic heater. Never operate this type of heater while sleeping. Once again they are useful for those people who are sensitive to kerosene fumes or have respiratory problems.



Oil Column Heaters



As the name suggests, these are upright columns filled with oil and a heating element. These type of heaters take while to heat up to their operating temperature but come with a number of benefits.

They are much safer than ordinary heaters because the heat is give off from the large surface area of the columns. This significantly reduces the fire/burn risk associated with this type of heater, and makes it a popular choice for families with young children.

They are also often equipped with timers and thermostats, making this the ideal choice for people who wish to wake up to a warm apartment, or who wish to sleep while it operates.

DISPELLING THE MYTH

Oil column heaters have earned a reputation of being more efficient than fan or radiant heaters. The reason for this is that once people turn them off, they keep on giving off heat, and they then assume that they're getting something for nothing. FALSE! This is nothing more than the residual heat being given off while the oil is cooling down. The same oil that took several minutes to *heat up* when you turned it on.

Oil heaters are especially popular in countries that charge a different rate for electricity at night than they do in the day. This allows people to heat their homes to comfortable temperatures prior to the expensive daytime rates kicking in. Since TEPCO (the national electricity supplier) charges the same uniform rate 24 hours a day, there is no benefit to be gained from doing this.

Air-conditioners

“What? Are you nuts!? An air conditioner in winter?”

Yes, an air conditioner in winter.

Some of you may be able to heat your apartments using your air-conditioners. If your air conditioner is marked with the word “*Inverter*” it means that it will operate backwards. Usually only the more modern air conditioner units will be able to do this.

It will draw heat (energy) from the *outside* air and depositing it *inside* your apartment. Even though the outside air is colder than the air inside, it still contains significant amounts of energy that can be extracted and used for heating.

Air conditioners are significantly more efficient than conventional heaters when operating in this way. The reason for this is that it is more efficient to *move* heat than to *create* it, and this is what an air conditioner does. On average they are in the range of 150-300% more efficient than conventional heaters depending on conditions. This means that they will draw about 1000 watts of power under normal use, but will give you the equivalent of 1500-3000 watts of heat output. Not a bad deal!

To add to this, many of these models have timers, thermostats, ionisers and a number of other features. They are also ideal for warming the house in the morning and for use while sleeping as they don't need supervision as most conventional heaters do.

Managing your Electricity

Most average Western homes have a 100 - 200 ampere (A) connection to the national grid. However, with most Japanese homes this connection averages around the 20A mark.

What does this mean for me?

Simple, you can run very few electrical appliances simultaneously. Too many, and you'll have a miniature `black-out` in your apartment until you can re-set your circuit breaker.

So how many can I run?

It depends on two factors:

1) How big is your connection?

Have a look at your circuit breaker box. (The main power switch). The colour of this box tells you what the capacity of your connection is:

- 15A Pink Circuit Breaker
- 20A Yellow Circuit Breaker
- 30A Green Circuit Breaker

Here's the way of working out your electrical load budget:

$$100v \text{ (Ibaraki's voltage)} \times \text{Amperage (your circuit breaker colour)} = \text{Your electrical budget in 'Watts'}$$

The average JET apartment would have a 20 Ampere (yellow) circuit breaker. So the average JET electrical load 'budget' would be

$$100v \times 20A = 2000 \text{ Watts}$$

So you have 2000 watts to run you apartment on.

2) What appliances are you running?

Different kinds of appliances place different loads on you electrical system. Here's a rough guide as to how much energy different appliances use.

(assumes they are functioning at full power)

Air conditioner	1,000w (1kWh)
Electric Heater	1,000w (1kWh)
Hairdryer	800w (.8kWh)
Microwave	800w (.8kWh)
T.V	150w (.15kWh)
Laptop	90w (.09kWh)
1 large Fluro Tube	40w (.04kWh)

TEPCO ELECTRICITY CHARGES As of 25/7/03

Basic Monthly Connection Charge

15A Pink C/Breaker	390 yen per month
20A Yellow C/Breaker	520 yen per month
30A Green C/Breaker	780 yen per month

Price per kWh of Electricity (kWh is 1,000 watts for one hour)

0 - 120	kWh	15.58 yen per kWh
121 - 300	kWh	20.67 yen per kWh
301+	kWh	22.43 yen per kWh

Example

I have a 20A (Yellow C/Breaker) connection to the power grid. I use 200kWh per month of electricity.

$$200kWh \times 20.67yen \text{ per kWh} = 4,134 \text{ yen}$$

$$\text{Connection charge} = \underline{520 \text{ yen}} +$$

$$\text{MONTHLY TOTAL} \quad \quad \quad 4,654 \text{ yen}$$

Personal Heating

Hokkairo

Apart from dressing in warm clothes and trying to stay out of the cold, there is one more answer to staying warm in adverse weather. These are hokkairo. Hokkairo are small pouches that contain chemicals that heat up when exposed to Oxygen in the air.



Hokkairo are inexpensive (about 100 – 150 yen per packet) and provide up to 8 hours of continuous heat. They also come in different temperature ranges with the hottest hitting peak temperatures of 70°C. Most operate at around 50 - 55°C.

Hokkairo are designed to be placed in a jacket pocket, however those people with poor circulation will be pleased to know that there are some hokkairo available that are designed to be placed in shoes to keep your toes warm. Some hokkairo also come with an adhesive backing so that they can be placed on your back under a jacket.

WARNING!

Although they may not feel that hot, hokkairo can cause serious burns if used incorrectly. The gentle heat that the hokkairo give off has a numbing effect on the skin. The unfortunate side effect of this is that the user may not be aware that they are being burnt until serious damage has been done.

A good rule to avoid burns is to keep a couple of medium thickness layers of clothing between the hokkairo and your skin. Purchase cooler operating hokkairo if this is unavoidable. Placing the hokkairo in an internal jacket pocket will warm the air that the jacket traps close to your body, thus keeping your whole torso warm.

Toe warmers are generally an exception to this rule, as they are designed to run at cooler temperatures.

HOW DO THEY WORK?

Hokkairo are small pouches containing iron, water, cellulose, vermiculite, activated carbon and salt.

Opening the plastic wrapping exposes the slightly moist iron to the Oxygen in the air, forming Iron Oxide (Fe₂O₃, commonly referred to as 'rust'). 'Rusting' isn't the fastest chemical reaction on the planet (one which would normally take days, or even weeks), so salt is added into the mix to act as a catalyst, and thus, considerably speeding up the reaction. Now that the reaction is giving off heat, the carbon is used to evenly distribute the heat around the packet and the vermiculite (an inert mineral with insulating properties) is used to retain the heat, thus giving off a gentle warmth. Cellulose is added as a filler, to give the pouch a bit of 'volume'.

GETTING SICK AND GETTING BETTER

It is almost guaranteed that every JET will get sick at some time in the year. Every year the schools are stuck with the annual "influ", or influenza, outbreak which will invariably get the JET as well. The traditional Japanese approach to illness is to deny that you're sick, struggle on regardless, thereby prolonging the illness due to lack of rest, and in the process infect all your colleagues with whatever you've got. This same work ethic is instilled into your students from an early age, making schools a viral hot spot at the beginning of winter. Lovely!

Let's just face it. You WILL get sick. So the best thing to get prepared for when the inevitable happens.

Sick Leave and your BoE.

Most BoE's have had a number of ALT's before you, so most will have systems in place to deal with ALT requests for Sick Leave (Ryokyu). You need to ask, and learn about what that system is.

Through unfamiliarity with the Western concept of Sick Leave (Ryokyu), BoE's may mistakenly try and use some of your Holiday Leave (Nenkyu) to cover your absence. It is important to work **WITH** your Supervisor / BoE to sort out these misunderstandings. If you approach the situation calmly, you'll most probably find that you'll have it all sorted out within a few minutes. If that doesn't work, feel free to contact the Prefectural Advisor for assistance and they will be able to assist you, or explain what the BoE's point of view is.

Please contact your supervisor and discuss with him/her your requirements for using sick leave. 5 minutes now may save you a lot of trouble later.

Hospitals and Doctors.

If you get sick, or suffer an injury, you will need to see a doctor or a specialist. Once again, a little preparation now will save you a lot of waiting and trouble later.

REGISTERING AT YOUR LOCAL HOSPITAL

When you are feeling terrible, running a fever, sneezing and or in pain, the last thing you want to be doing is filling out Japanese forms by yourself. Follow these simple steps to save you time later.

At one of your orientations, you should have been given a publication entitled "Guidebook For Foreign Residents". Have a look through this book and find a local hospital near you that has an English speaking doctor. Ask your supervisor to help you register with them. Don't forget to take your National Insurance Card with you (it's the one in the plastic sleeve). Make sure that you or your supervisor makes a note of your need for an English speaking doctor on the registration forms.

Once you have registered, you will be presented with a plastic membership card. When you get sick, present this card so that they can forward your medical history onto the English speaking doctor (if one is available).

While you are there, don't forget to take a note of the hospital's operating hours. Usually they are open from 8am – 11am, and then from 1pm – 4:30 pm.

One more thing. Hospitals don't take reservations in Japan.

PROCEDURE FOR GOING TO THE HOSPITAL.

- 1) Register at the reception desk. Usually this involves nothing more than depositing your Hospital Card in a slot on the desk. Hopefully with the information in your file, you will be directed to an English speaking doctor later.
- 2) Take a seat with all the other people and wait and wait and waitand wait.
- 3) A nurse will eventually call your name. Initially she will give you a thermometer to put under your armpit. Don't put it in your mouth!
- 4) The second time your name is called, follow the nurse's directions. Usually this will be to a second waiting area just outside the examination room.
- 5) See the doctor. Make sure that you understand any directions that he may give you and what medication that he's giving you.
- 6) The doctor will usually give you two pieces of paper. One will be a prescription, the second will be a note for the Reception desk. Take the note to the Reception desk, and they will prepare your bill taking into account your Insurance Coverage. You'll need to wait some more for the bill. Just listen for your name.

THE DOCTOR - PATIENT RELATIONSHIP

In Japanese hospitals, there has never been a culture of frank discussion about a patient's condition, treatments, medications and side effects. Japanese doctors have been used to almost God like worship, and patients following their directions without question, or knowledge of what medication they are taking. Fortunately this is slowly changing.

HOWEVER

Westerners have been brought up with an expectation that a doctor will take the time to explain exactly these things. Don't be afraid to ask questions about your treatment, but be prepared for the doctor to be a little surprised when you question him. (almost invariably it will be a man)

After all, It is your right to know what you will be putting in your body.

PROCEDURE FOR GOING TO THE PHARMACY

Usually there will be a pharmacy very close to the hospital that is responsible for filling all the hospital prescriptions. Ask at the reception desk where it is.

Getting a prescription filled in Japan is just like getting one filled anywhere else on the world. Just present your prescription and Health Insurance card to the cashier and after about 10 minutes your large package of drugs will be ready.

Large package of drugs?

Yup, LARGE package of drugs.

Japanese drugs are usually prescribed to treat just one symptom of your illness. So if you have the 'flu for example, you'll get:

- 1 drug for a sore throat
- 1 drug for aches and pains
- 1 drug for inflammation
- 1 drug for dehydration.

And they're not pills either. Japanese drugs come in powder form in small plastic pockets. To take one, you are supposed to pour the powder into your mouth and wash it down with some water. Do not inhale them through a \$100 dollar bill!

SIDE EFFECTS

Japanese drugs are renown for their frequent side effects. In order to protect the domestic drug industry, laws are in place to largely restrict the importation of medicines into Japan. However this had had the effect of delaying the introduction of newer more advanced treatments into the country, and allowing older generations of drugs (with their associated side effects) to stay on the market.

In addition to this, the domestic drug industry isn't required to comply to the same high standards of testing that are common in most other Western countries. The result is that there are many drugs on the market that cause side effects that probably would have been notice during more extensive testing.

WINTER AT SCHOOL

Bureaucracy rules in Japan, and and at no time is this more apparent than in winter. Officialdom in Japan had declared that one particular date will be the start of winter and hence all the winter associated changes will occur then, regardless of the fact that the temperatures are usually still hovering in the high 20's.

The most noticeable of these changes will be your students uniforms. Gone will be the light summer uniform, useful for keeping cool on hot days. What will arrive at school in the morning will be a horde of sweltering, sticky, hot, crabby students clad in a uniform designed for arctic survival (well almost!).

As winter progresses further, bureaucracy rears its ugly head again. The temperatures will drop considerably and the students and teachers will complain of being constantly cold. BUT, you haven't reached the "official day for turning on the heaters". GRRRRRR! Up until this point you'll be using long johns and hokkairo to maintain a reasonable temperature. Most Japanese women take a small blanket to school to keep their legs warm, so don't be surprised if you arrive at school one day and they students look like they're ready for a slumber party.

If you're lucky, you'll be working in a school that has a central air conditioning system. If you're not, you'll be coming home stinking of kerosene fumes each day from the pot-belly and radiant kerosene heaters. These heaters will run constantly, because the Japanese have an obsession with heating buildings to tropical temperatures inside, when outside it is cold enough to be forming icicles. It's not uncommon to see long sleeved t-shirts in the staffroom. Sometime it gets so hot that the students will have to open the windows to let some of the cold air inside!

Snow and ice are constant problems in winter. Occasionally there may be heavy snowfall overnight, prompting the teachers to call a 'Snow Day'. All the students will receive a telephone call advising them not to come to school, or come at a delayed start time. You may also receive this call, but depending on your school, you still may have to go in.

After a heavy snowfall, you will be expected to help the other teachers clear the school paths and driveways of snow and ice, making it safe for the students to cycle into the school grounds. (It's bizarre when you consider that they have usually cycled for 1 - 2 km on snow and ice to get to the school in the first place!)

HELPFUL WINTER HINTS

- Leave your toothpaste and deodorant in the fridge, so it won't freeze overnight
- Have a shower at night, that way if the pipes freeze you'll be reasonably clean the next day.
- Keep a bag of gravel in the boot of your car. You can throw it under your tyres for extra traction in the ice. Alternatively you can use your car mats.
- Keep an old pair of socks ready for icy days. You can put them over your shoes for extra traction.

COMPARATIVE HEATING COSTS ANALYSIS

- Kerosene Heater vs Conventional Electrical Heating

ASSUMPTIONS:

- Kerosene costs approx ¥600 per 18 litre tank.
- The fuel consumption of an average 3000 watt equivalent kerosene fan heater on full power is around 0.33 litres per hour.
- Electrical charges are based on the average JET consumption of around 121 - 300 kWh per month. (i.e. 20.67 yen per kWh)
- Electrical load of 1000W for an average electric heater.

KEROSENE HEATERS

$$18 \text{ (litres per container)} / 0.33 \text{ (litres per hour)} \\ = \mathbf{54.54 \text{ (hours per container)}}$$

$$\text{¥}600 \text{ (cost for 18 litres of fuel)} / 54.54 \text{ (hours per container)} \\ = \mathbf{\text{¥}11.01 \text{ yen per hour of operation at full power(3000W equivalent).}}$$

$$\text{¥}11.01 \text{ yen (per hour at 3000W equivalent)} / 3 \\ = \mathbf{\text{¥}3.68 \text{ per kWh (equivalent) hour of operation}}$$

COMPARISON:

Kerosene heaters	=	¥3.68 per kWh
Electrical heaters	=	¥20.67 per kWh

CONCLUSION:

Kerosene heating is 5.62 times more cost efficient at home heating than electrical heating.