# Pharmaceuticals and Medical Devices Safety Information

## No. 340 February 2017

**Table of Contents**



This *Pharmaceuticals and Medical Devices Safety Information (PMDSI)* is issued based on safety information collected by the Ministry of Health, Labour and Welfare (MHLW). It is intended to facilitate safer use of pharmaceuticals and medical devices by healthcare providers. The PMDSI is available on the Pharmaceuticals and Medical Devices Agency (PMDA) Medical Product Information web page (http://www.pmda.go.jp/english/index.html) and on the MHLW website (http://www.mhlw.go.jp/, only available in Japanese language).

Available information is listed here

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# Pharmaceuticals and Medical Devices Safety Information

**No. 340 February 2017**

Ministry of Health, Labour and Welfare & Pharmaceutical Safety and Environmental Health Bureau, Japan


## [ Outline of Information ]

| No. | Subject | Measures | Outline of Information | Page |
|---|---|---|---|---|
| 1 | **Precautions Concerning Recurrent and Similar Medical Accidents** | | The Japan Council for Quality Health Care collected information of medical accidents between July 1, 2015 and December 31, 2015. This section presents the recurrent incidents and others as confirmed by the analysis of the incidents by the Pharmaceuticals and Medical Devices Agency. | 4 |
| 2 | **Revision of Precautions (No. 281)** | *P* | Iguratimod, and 2 others | 10 |
| 3 | **List of Products Subject to Early Post-marketing Phase Vigilance** | | List of products subject to Early Post-marketing Phase Vigilance as of December 31, 2016. | 12 |
| Reference | **Precautions Regarding Handling of Fire During Long-Term Oxygen Therapy (LOT)** | | Fatal fire accidents caused by smoking, etc., have occurred repeatedly in patients on LOT. Healthcare professionals, patients, and their families should be advised again not to smoke during LOT and to keep the oxygen concentrator away from sources of fire, such as a stove. | 15 |

*P*: Revision of Precautions *C*: Case Reports

**Reporting of safety information such as adverse reactions to the Minister of Health, Labour and Welfare is a duty of medical and pharmaceutical providers.**

If medical and pharmaceutical providers such as physicians, dentists, and pharmacists detect adverse reactions, infections associated with drugs or medical devices, or medical device adverse events, it is mandatory for such providers to report them to the Minister of Health, Labour and Welfare directly or through the marketing authorization holder. As medical and pharmaceutical providers, drugstore and pharmacy personnel are also required to report safety issues related to drugs and medical devices.

## Abbreviations

| | |
|---|---|
| ADR | Adverse drug reaction |
| EPPV | Early Post-marketing Phase Vigilance |
| GAD | General Affairs Division |
| HPB | Health Policy Bureau |
| HUS | Haemolytic uraemic syndrome |
| JCQHC | Japan Council for Quality Health Care |
| JIMGA | Japan Industrial and Medical Gases Association |
| LOT | Long-term oxygen therapy |
| MAH | Marketing authorization holder |
| MHLW | Ministry of Health, Labour and Welfare |
| PFSB | Pharmaceutical and Food Safety Bureau |
| PMDA | Pharmaceuticals and Medical Devices Agency |
| SD | Safety Division |
| TTP | Thrombotic thrombocytopenic purpura |

# 1

# Precautions Concerning Recurrent and Similar Medical Accidents

## 1. Introduction

The Ministry of Health, Labour and Welfare (MHLW) and Pharmaceuticals and Medical Devices Agency (PMDA) are analyzing information on medical accidents and near-miss events collected as a part of the Project to Gather Medical Near-Miss/Adverse Event Information and the Project to Gather and Analyze Pharmaceutical Near-Miss Events run by the Japan Council for Quality Health Care (JCQHC). The MHLW and PMDA also strive to caution healthcare professionals by issuing notifications on the prevention of medical accidents related to pharmaceuticals and medical devices and by preparing the "PMDA Medical Safety Information".

However, as a result of recent analysis of cases reported to the JCQHC between July 1, 2015 and December 31, 2015, the occurrence of the following events that had been cautioned in the notifications or "PMDA Medical Safety Information" was confirmed.

Therefore, in addition to detailing confirmed recurrent incidents, this section will especially focus on "Incidents of prescription error of pneumococcal vaccines".

## 2. Major Recurrent Incidents

### (1) Prescription errors of pneumococcal vaccines

- Incident report

  An infant under 2 years of age was vaccinated with "Pneumovax NP" instead of "Prevenar 13 Suspension Liquid for Injection", which was the intended vaccine.(Note)

  The administration error was not recognized on the day of vaccination. During a visit to a nearby facility on a later day, the physician noticed a potential error in administration when viewing the lot stickers placed on the vaccination column of the Mother and Child Health Handbook.

  The underlying cause was an insufficient checking function in each step from order of the vaccine to administration including a dispensing system where vaccines were requested on a collective, rather than individual, basis for outpatients. The physician who administered the vaccine had assumed that it was "Prevenar 13 Suspension Liquid for Injection".

(Note) There are two pneumococcal vaccines on the market: "Pneumovax NP" (Pneumococcal Polysaccharide Vaccine, 23 Valent) intended for pediatric patients aged 2 and above and "Prevenar 13 Suspension Liquid for Injection (Pneumococcal 13-valent Conjugate Vaccine)" for pediatric patients aged 2 months to less than 6 years as well as elderly patients aged 65 and above. Sufficient efficacy cannot be obtained if the products are administered to patients whom they are not intended for and safety has not been established for such patients.

- Preventative measures for recurrence adopted by the facility where the incident occurred

  Dispensing of vaccines was switched to an individual patient basis system, and rigorous verification by the pharmacy department of the age of patients based on the birth dates was agreed upon. In addition, several measures were adopted when administering the vaccine such as double checks done by the physician and nurse as well as having family members confirm the drug name.

- Related notifications or precautions

  Joint Notification of Health Policy Bureau (HPB) Notification No. 1029-2 and Pharmaceutical and Food Safety Bureau (PFSB) / Safety Division (SD) Notification No. 1029-7 dated October 29, 2010
  "Preventative Measures for Administration errors of Pneumococcal Vaccines (request for precaution and dissemination to medical institutions, etc.)" (Only available in Japanese language)
  http://www.pmda.go.jp/files/000144932.pdf

Details of the Notification (revised based on changes in indications since the release of the notification [underlined parts are revised])

<Precaution>
1. There are different products for different age groups of patients for pneumococcal vaccines.
2. Medical institutions should exercise caution when vaccinating patients by sufficiently confirming the age group indicated on the package insert and that the proper vaccine is being administered to the appropriate patient. Specifically, pediatric patients aged 2 to less than 6 years as well as elderly patients aged 65 and above are subjects for both products, and the vaccine used should be determined after careful consideration of the indications of both products.
3. Medical institutions and pharmaceutical wholesale distributors should use the brand name when prescribing, dispensing, sending or receiving orders for pneumococcal vaccines. In addition, measures to prevent vaccination errors should be adopted such as confirming the ages of patients or confirming the presence/absence of underlying diseases. Caution should especially be exercised in medical institutions that are likely to use both products, such as medical institutions with a pediatric department.

<References>
Specific incidents of vaccination errors
- Orders were made to the wholesale distributor by nonproprietary name, “pneumococcal vaccines“, for the purpose of vaccinating a pediatric patient under the age of 2. The wholesale distributor delivered “Pneumovax NP“, and the patient was vaccinated with this product.
- The pediatric outpatient department requested for a “pneumococcal vaccine“ to the pharmacy department. The pharmacy department provided “Pneumovax NP“ that had been used from before by other departments, and the patient was vaccinated with this product.
- A medical facility, which had been delivered both “Pneumovax NP“ and “Prevenar 13 Suspension Liquid for Injection“ by the wholesale distributor before, submitted an order for “pneumococcal vaccines“. The wholesale distributor delivered “Pneumovax NP“, and a patient who was under the age of 2 was vaccinated with this product.
- A handwritten prescription for “pneumococcal vaccine“ was submitted, and the pharmacy department dispensed “Prevenar 13 Suspension Liquid for Infection“ to an adult patient, who was then vaccinated with this product.

December 2014 Project to Gather Medical Near-Miss/Adverse Event Information Medical Safety Information No.97 (only available in Japanese language)
“Mistakes in product selection of pneumococcal vaccines“
http://www.med-safe.jp/pdf/med-safe_97.pdf *Figure 1

<Subsequent precautions from related companies>
November 2015 MSD K.K., Pfizer Japan Inc. (only available in Japanese language)
“Request to prevent vaccination errors Pneumovax NP/Prevenar 13 Suspension Liquid for Injection“
http://www.pmda.go.jp/files/000208100.pdf *Figure 2


Figure 1


Figure 2

## (2) Other recurrent and similar incidents

(Analysis results of cases reported to the JCQHC between July 1, 2015 and December 31, 2015)
The following chart is a list of medical accident information and recurrence of near-miss accidents, etc.

[Pharmaceuticals]

| No. | Content | Preventative Measures for Recurrence and Related Notifications |
|---|---|---|
| 1 | Rectal injuries due to use of glycerin enemas | Enemas should be given in the left lateral position as much as possible and do not try to force insertion if any resistance is felt or if the patient complaints about pain, etc. (It is possible that the tip of the tube is hitting against the rectal wall and may cause perforation)<br>PMDA Medical Safety Information No. 34<br>“Precautions in Handling of Glycerin Enemas”<br>https://www.pmda.go.jp/files/000153582.pdf |
| 2 | Accidental ingestion of PTP sheets | The following measures are implemented to prevent accidental ingestion of Press Through Packages (PTP) sheets: (1) Sheets should not be cut into individual pieces when dispensing, administering, etc. drugs; (2) patients and family, etc. should be instructed about storage and administration methods (including supervision during oral administration of patients who are anticipated to have difficulty managing drug administration on their own); and (3) dispensing drugs as a one dose package as necessary after consultation with the prescribing physician. |

| | | |
|---|---|---|
| | | Joint Notification of HPB/General Affairs Division (GAD) Notification No. 0915-2, PFSB/GAD Notification No. 0915-5, and PFSB/SD Notification No. 0915-1 dated September 15, 2010 "Preventative measures for accidental ingestion of PTP sheet (request for precaution and dissemination to medical institutions and pharmacies)" (Only available in Japanese language) http://www.pmda.go.jp/files/000145758.pdf |
| 3 | Error in dosage unit of insulin administered | When preparing insulin, confirm that there are no errors in unit conversion (i.e. number of mL). (1mL of insulin injection fluid is 100 units) Be cautious about mix-ups between insulin syringes and other syringes.<br>PMDA Medical Safety Information No. 23 "Precautions in Handling of Insulin Syringes" https://www.pmda.go.jp/files/000153172.pdf |

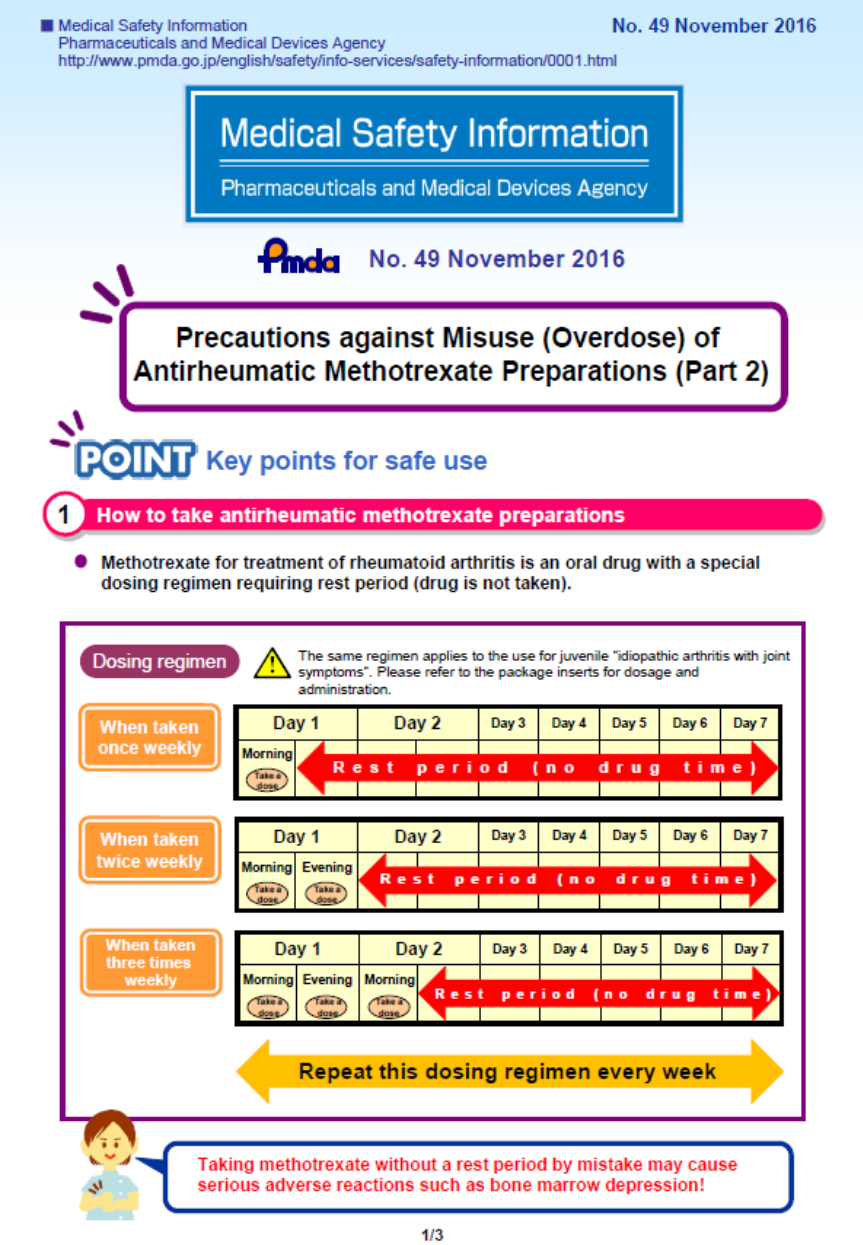
[Medical Devices]

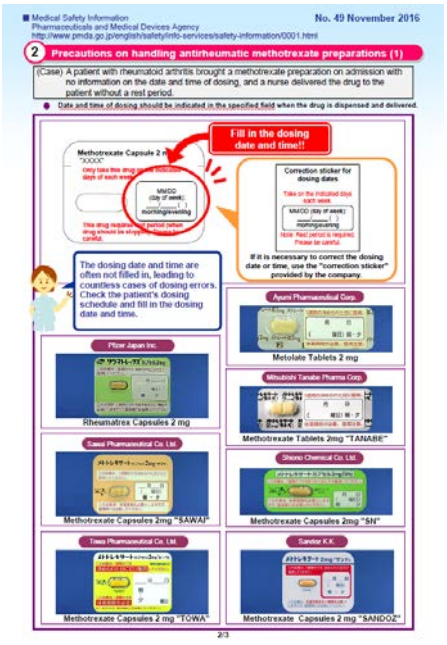
| No. | Content | Preventative Measures for Recurrence and Related Notifications |
|---|---|---|
| 1 | Burns due to heated tips of electric scalpels, etc. | As a general rule, tips of electric scalpels or lasers should not be placed directly on top of drapes. Depending on the surgical situation, use of holsters or silicon mats could be helpful as well.<br>PMDA Medical Safety Information No. 33 "Accidental Burns during Surgery" https://www.pmda.go.jp/files/000153041.pdf |
| 2 | Removal of tubes and lines | Before changing the patient's body position or moving the patient, make sure to carefully observe whether lines will be caught, and confirm whether infusion stands and drainage bags should be moved.<br>PMDA Medical Safety Information No. 36 "Accidental Removal of Tubes and Lines" https://www.pmda.go.jp/files/000153760.pdf |
| 3 | Incorrect intubation of nasogastric tubes | After intubation, confirm the position of the tube by using multiple methods.<br>(Confirmation of correct tube positioning may be difficult to determine by the whooshing sound alone.)<br>PMDA Medical Safety Information No. 42 "Precautions in Handling of Nasogastric Tubes" https://www.pmda.go.jp/files/000153901.pdf |
| 4 | Fire occurrence with use of electric scalpel in a patient with an endotracheal tube for administering oxygen | As a general rule, surgical scalpels should be used for tracheostomy when administering oxygen. Perform hemostasis with careful monitoring for any oxygen leak.<br>PMDA Medical Safety Information No. 14 "Precautions in Handling of Electric Scalpels (Part 1)" https://www.pmda.go.jp/files/000153260.pdf |

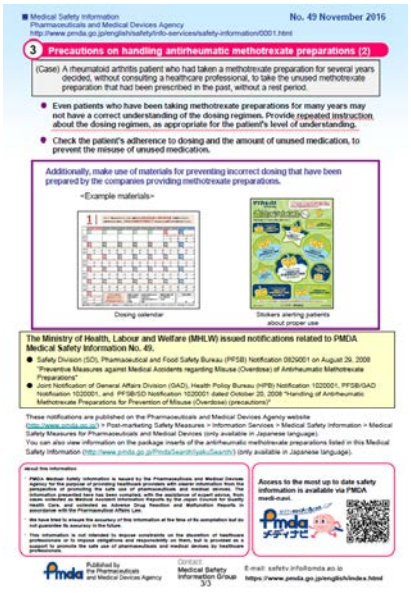
## 3. Newly Prepared PMDA Medical Safety Information

While recurrent incidents of administration error of antirheumatic methotrexate preparations were introduced in Pharmaceuticals and Medical Devices Safety Information No. 333, new PMDA Medical Safety Information was prepared in November 2016.

PMDA Medical Safety Information No. 49
"Precautions against Misuse (Overdose) of Antirheumatic Methotrexate Preparations"
https://www.pmda.go.jp/files/000214904.pdf



This product is an oral drug with a special dosing regimen requiring a rest period (when the drug is not administered), and it is important for healthcare professionals to understand the following precautions when dispensing, distributing, providing guidance on administration on the product, etc.

- Date and time of dosing should be indicated in the specified field when the drug is dispensed and delivered.
- Even patients who have been taking methotrexate preparations for many years may not have a correct understanding of the dosing regimen. Provide repeated instructions about the dosing regimen, as appropriate for the patient's level of understanding.
- Check the patient's adherence to dosing and the amount of unused medication to prevent misuse of unused medication.

## 4. Requests to Healthcare Professionals

Preventative measures for recurrence and related notifications have been presented this time for each distinct recurrent incident. In addition to re-confirming the management structure within the facility, please refer to the aforementioned information when providing guidance to patients and families, etc.

Please also refer to "PMDA Medical Safety Information" for details of other incidents for which caution should be exercised as well as "Medical Safety Information" issued by JCQHC which uses illustrations to alert caution.

(References)

1. MHLW: Survey on Safe Use of Pharmaceuticals and Medical Devices
   (Only available in Japanese language)
   http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000057965.html
2. PMDA: Survey Results on Safe Use of Pharmaceuticals, Medical Devices, and Regenerative Medicines (Only available in Japanese language)
   http://www.pmda.go.jp/safety/info-services/medical-safety-info/0004.html
3. PMDA Medical Safety Information
   https://www.pmda.go.jp/english/safety/info-services/safety-information/0001.html
4. JCQHC: Medical Safety Information
   http://www.med-safe.jp/contents/english/index.html

# 2

# Revision of Precautions (No. 281)

This section presents details of revisions to the Precautions section of package inserts and brand names of drugs that have been revised in accordance with the Notifications dated January 10, 2017.

## 1 Miscellaneous metabolism agents-Miscellaneous

## Iguratimod

| | |
|---|---|
| **Brand name** | Careram Tablets 25 mg (Eisai Co., Ltd.), Kolbet Tablets 25 mg (Toyama Chemical Co., Ltd.) |
| **Adverse reactions (clinically significant adverse reactions)** | Pancytopenia, agranulocytosis, and leukopenia: Pancytopenia, agranulocytosis, and leukopenia may occur. Patients should be carefully monitored through periodic testing, etc. If any abnormalities are observed, appropriate measures such as discontinuation of administration should be adopted. |

## 2 Antineoplastics – Miscellaneous

## Lenalidomide hydrate

| | |
|---|---|
| **Brand name** | Revlimid Capsules 2.5 mg and 5 mg (Celgene K.K.) |
| **Important Precautions** | Reactivation of hepatitis B virus may occur among hepatitis B virus carriers or patients who have a history of being infected (i.e. HBs antigen negative and HBc antibody or HBs antibody positive) following administration of lenalidomide hydrate. The presence or absence of hepatitis B virus infection should be confirmed prior to administrating this drug and appropriate measures should be adopted before the administration of this drug. After beginning the administration of this drug, attention should be paid to the occurrence of signs or symptoms related to reactivation of the hepatitis B virus through continuous hepatic function tests, monitoring of hepatitis virus markers, etc. |
| **Adverse reactions (clinically significant adverse reactions)** | Infections: Serious infections such as pneumonia or sepsis may occur. Reactivation of hepatitis B virus may also occur. Patients should be carefully monitored. If any abnormalities are observed, administration of this drug should be discontinued and appropriate measures should be adopted. |

## 3 Biological preparations-Miscellaneous

## Interferon beta-1b (genetical recombination)

| | |
|---|---|
| **Brand name** | Betaferon Subcutaneous Injection. 9.6 million IU (Bayer Yakuhin, Ltd.) |
| **Adverse reactions (clinically significant adverse reactions)** | Thrombotic thrombocytopenic purpura (TTP) and haemolytic uraemic syndrome (HUS): |

TPP (primary symptoms: thrombocytopenia, haemolytic anaemia with confirmed schistocytes, neuropsychological symptoms, pyrexia, and renal impairment) and HUS (primary symptoms: thrombocytopenia, haemolytic anaemia with confirmed schistocytes, and acute renal failure) may occur. Patients should be carefully monitored through periodic blood tests (platelet counts, red blood cell counts, etc.) and renal function tests, etc. If any abnormalities are observed, administration of this drug should be discontinued and appropriate measures should be adopted.

# 3

# List of Products Subject to Early Post-marketing Phase Vigilance

Early Post-marketing Phase Vigilance (EPPV) was established in 2001. This unique system for new drugs refers to any safety assurance activities that are conducted within a period of 6 months just after marketing of a new drug. It is imposed that its marketing authorization holder (MAH) is responsible for collecting adverse drug reaction (ADR) from all of the medical institutions where the drugs are used and taking safety measures. The aim of the EPPV is to promote the rational proper use of drugs in medical treatments, and to promptly take actions for prevention of the serious ADR. EPPV is specified as a condition of approval.

(As of December 31, 2016)
◎: Products for which EPPV was initiated after December 1, 2016

| | Nonproprietary name<br>Brand name | Name of the MAH | Date of EPPV initiate |
|---|---|---|---|
| ◎ | Carglumic Acid<br>Carbaglu Dispersible Tablets 200 mg | Pola Pharma Inc. | December 22, 2016 |
| ◎ | Canakinumab (Genetical Recombination)<br>Ilaris for Subcutaneous Injection 150 mg[*1] | Novartis Pharma K.K. | December 19, 2016 |
| ◎ | Eplerenone<br>Selara Tablets 25, 50 mg[*2] | Pfizer Japan Inc. | December 19, 2016 |
| ◎ | Lomitapide Mesilate<br>Juxtapid Capsules 5, 10, 20 mg | Aegerion Pharmaceuticals Inc. | December 15, 2016 |
| ◎ | Dienogest<br>DINagest Tablets 1 mg, DINagest OD Tablets 1 mg[*3] | Mochida Pharmaceutical Co., Ltd. | December 2, 2016 |
| ◎ | Pasireotide Pamoate<br>Signifor LAR Kit for I. M. Injection 20, 40, 60 mg | Novartis Pharma K.K. | December 2, 2016 |
| | Albutrepenonacog Alfa (Genetical Recombination)<br>Idelvion I.V. Injection 250, 500, 1000, 2000 | CSL Behring K.K. | November 29, 2016 |
| | Rifaximin<br>Rifxima Tablets 200 mg | Aska Pharmaceutical. Co., Ltd. | November 29, 2016 |
| | Budesonide<br>Zentacort Capsules 3 mg | Zeria Pharmaceutical Co., Ltd. | November 29, 2016 |
| | Alogliptin Benzoate/Metformin Hydrochloride<br>Inisync Combination Tablets | Takeda Pharmaceutical Company Limited | November 29, 2016 |
| | Zoledronic Acid Hydrate<br>Reclast for I.V. Injection 5 mg | Asahi Kasei Pharma Corporation | November 25, 2016 |
| | Ponatinib Hydrochloride<br>Iclusig Tablets 15 mg | Otsuka Pharmaceutical Co., Ltd. | November 21, 2016 |
| | Selexipag<br>Uptravi Tablets 0.2 mg, 0.4 mg | Nippon Shinyaku Co., Ltd. | November 21, 2016 |
| | Ixekizumab (Genetical Recombination)<br>Taltz 80 mg Syringe for SC Injection, Taltz 80 mg Auto-Injector for SC Injection | Eli Lilly Japan K.K. | November 21, 2016 |
| | Grazoprevir Hydrate | MSD K.K. | November 18, 2016 |

| Nonproprietary name / Brand name | | Name of the MAH | Date of EPPV initiate |
|---|---|---|---|
| | Grazyna Tablets 50 mg | | |
| | Elbasvir<br>Erelsa Tablets 50mg | MSD K.K. | November 18, 2016 |
| | Elotuzumab (Genetical Recombination)<br>Empliciti I.V. Injection 300 mg, 400 mg | Bristol-Myers Squibb K.K. | November 18, 2016 |
| | Bilastine<br>Bilanoa Tablets 20 mg | Taiho Pharmaceutical Co., Ltd. | November 18, 2016 |
| | Telmisartan/Amlodipine Besilate/ Hydrochlorothiazide<br>Micatrio Combination Tablets | Nippon Boehringer Ingelheim Co., Ltd. | November 18, 2016 |
| | Idarucizumab (Genetical Recombination)<br>Prizbind Intravenous Solution 2.5 g | Nippon Boehringer Ingelheim Co., Ltd. | November 18, 2016 |
| | Desloratadine<br>Desalex Tablets 5 mg | MSD K.K. | November 18, 2016 |
| | Adapalene/Benzoyl Peroxide<br>Epiduo Gel | Galderma S.A. | November 4, 2016 |
| | Brodalumab (Genetical Recombination)<br>Lumicef Subcutaneous Injection 210 mg Syringe | Kyowa Hakko Kirin Co., Ltd. | September 30, 2016 |
| | Adalimumab (Genetical Recombination)<br>Humira for SC Injection 40 mg syringe 0.8 mL, 40 mg syringe 0.4 mL, 80 mg syringe 0.8 mL[*4] | AbbVie GK | September 28, 2016 |
| | Aripiprazole<br>Abilify Tablets 1 mg, 3 mg, 6 mg, 12 mg, OD Tablets 3 mg, 6 mg, 12 mg, powder 1%, oral solution 0.1%[*5] | Otsuka Pharmaceutical Co., Ltd. | September 28, 2016 |
| | Propranolol Hydrochloride<br>Hemangiol Syrup for Pediatric 0.375%[*6] | Maruho Co., Ltd. | September 16, 2016 |
| | Progesterone<br>OneCrinone 90 mg Progesterone Vaginal Gel | Merck Serono Co., Ltd. | September 7, 2016 |
| | Alirocumab (Genetical Recombination)<br>Praluent Subcutaneous Injection pen 75 mg, 150 mg, Syringe 75 mg, 150 mg | Sanofi K.K. | September 5, 2016 |
| | Levodopa/Carbidopa Hydrate<br>Duodopa enteral combination solution | AbbVie GK | September 1, 2016 |
| | Lacosamide<br>Vimpat Tablets 50 mg, 100 mg | UCB Japan Co. Ltd. | August 31, 2016 |
| | Sodium Picosulfate Hydrate, Magnesium Oxide, Anhydrous Citric Acid<br>Picoprep Combination Powder | Ferring Pharmaceuticals Co., Ltd. | August 31, 2016 |
| | Carfilzomib<br>Kyprolis Intravenous Infusions 10 mg, 40 mg | ONO Pharmaceutical Co., Ltd. | August 31, 2016 |
| | Nivolumab (Genetical Recombination)<br>Opdivo Intravenous Infusions 20 mg, 100 mg[*7] | ONO Pharmaceutical Co., Ltd. | August 26, 2016 |
| | Remifentanil Hydrochloride<br>Ultiva Intravenous 2 mg, 5 mg[*8] | Janssen Pharmaceutical K.K. | August 26, 2016 |
| | Vigabatrin<br>Sabril 500mg Powder | Sanofi K.K. | July 27, 2016 |

| Nonproprietary name / Brand name | | Name of the MAH | Date of EPPV initiate |
|---|---|---|---|
| | Elvitegravir, Cobicistat, Emtricitabine, Tenofovir Alafenamide Fumarate<br>Genvoya Combination Tablets | Japan Tobacco Inc. | July 8, 2016 |

*1 Familial mediterranean fever, Tumour necrosis factor receptor-associated periodic syndrome, Mevalonate kinase deficiency/Hyper IgD syndrome

*2 Chronic cardiac failure

*3 Improvement of pain in adenomyosis uteri

*4 Non-infectious intermediate, posterior and panuveitis

*5 Irritability associated with autism spectrum disorder in childhood

*6 Infantile haemangioma

*7 Radically unresectable or metastatic renal cell carcinoma

*8 Analgesia in maintaining general anesthesia of children

(Reference)

# Precautions Regarding Handling of Fire during Long-Term Oxygen Therapy (LOT)

## 1. Introduction

Long-term oxygen therapy (LOT) is an at-home treatment for chronic respiratory failure patients to inhale highly-concentrated oxygen by using an oxygen concentrator, liquid oxygen units, and oxygen cylinders (hereinafter referred to as an “oxygen concentrator”).

The oxygen concentrator can be used safely when properly used in accordance with the instructions in the package insert and the user’s manual. Since oxygen is a combustion-enhancing gas, however, sources of fire should be handled with the utmost care. The package insert and the user’s manual contain precautions not to put any sources of fire close to the oxygen concentrator. Moreover, the MHLW and the Japan Industrial and Medical Gases Association (JIMGA) have prepared and distributed leaflets and videos for handling of fire during LOT to alert patients and their families.

However, fatal fire accidents believed to be caused by smoking, etc. have still occurred repeatedly in patients using LOT. Accordingly, healthcare professionals, patients, and their families are advised again to take thorough precautions.

**Table 1** shows “Cases of serious health damage due to fire in the houses of patients using LOT” for which information was updated as of the end of November 2016 by the JIMGA.

## 2. Request for taking thorough safety measures

As the MHLW and JIMGA have alerted repeatedly against fire accidents, patients using LOT and their families need to take the following precautions against handling of fire when using the oxygen concentrator. Healthcare professionals are advised again to thoroughly alert patients and their families about the following precautions.

(1) Sources of fire, including smoking near an oxygen concentrator while inhaling high-concentration oxygen, may cause items such as cannulas and clothing to ignite, resulting in severe burn injuries or house fires.
(2) Any sources of fire should not be put within 2 meters of an oxygen concentrator in use. Smoking is strictly prohibited especially during oxygen inhalation.
(3) Oxygen will not cause items such as cannulas and clothing to ignite or cause home fires when properly used in accordance with the user’s manual and appropriate precautions against fire. You are advised to inhale in accordance with the instructions given by the doctor without being unduly afraid.

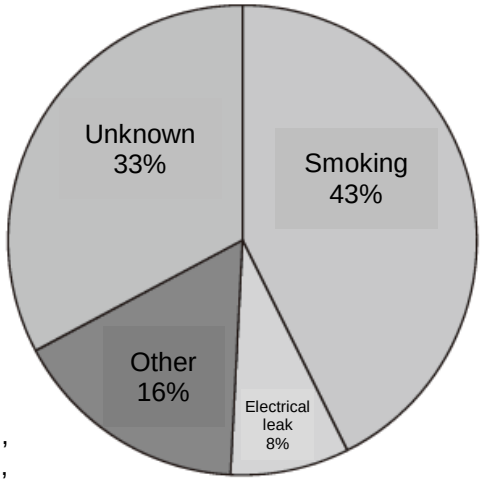
<References>

1. MHLW: Precautions Regarding Handling of Fire During LOT
(Only available in Japanese language)
http://www.mhlw.go.jp/stf/houdou/2r98520000003m15_1.html
2. JIMGA: Cases of serious health damage due to fire in the houses of patients using LOT
(Only available in Japanese language)
http://www2.jimga.or.jp/dl/iryo/all/top/HOT_jiko.pdf
3. JIMGA: Precautions against Handling of Fire during LOT
(Only available in Japanese language)
http://www.jimga.or.jp/front/bin/ptlist.phtml?Category=7041

**Table 1 Cases of serious health damage due to fire in the houses of patients using LOT (Prepared by JIMGA [as of the end of November 2016])**

**<Breakdown by Causes of Fire Accidents>**

*Unknown includes incidents in which the location where the fire started is unknown.




*Oxygen suppliers themselves have never caused fire.

*Other includes stoves, incense sticks, kitchen, candles, etc.

(Breakdown of all 61 fire accidents by cause)

| No. | Date of Incident | Prefecture | Age (Gender) | Damage | Cause (including assumptions) |
|---|---|---|---|---|---|
| 1~52 | December 2003 – December 2014 | | | 50 deaths, 2 serious injuries | Smoking, electrical leak, stove, etc. |
| 53 | February 2015 | Osaka | 80s (Male) | Death (death by fire) | (Unknown) |
| 54 | April 2015 | Chiba | 80s (Female) | Death | (Unknown) |
| 55 | May 2015 | Saitama | 60s (Male) | Death (death by fire) | (Unknown) |
| 56 | June 2015 | Shizuoka | 70s (Female) | Burns over the entire body (serious injury) | (Unknown) |
| 57 | November 2015 | Aichi | 80s (Male) | Death | (Unknown: possibly extension cord) |
| 58 | December 2015 | Ibaraki | 80s (Male) | Death (death by fire) | (Unknown) |
| 59 | January 2016 | Shimane | 80s (Male) | Death (death by fire) | (Unknown) |
| 60 | March 2016 | Okayama | 70s (Female) | Death (death by fire) | (Unknown: possibly smoking) |
| 61 | April 2016 | Hiroshima | 60s (Male) | Death | Smoking |

***Accidents since October 2003 studied/analyzed through member companies of JIMGA.**
*Criteria for reports: “Fire accidents that occurred in the houses of patients using LOT and in which the patient either died or suffered a serious injury”
(Not limited to fires caused by smoking; fires with unidentified causes should be reported.)