



HOSPITAL TUMPAT

LIST OF MEDICINES WITH ANIMAL ORIGIN

**UNIT FARMASI
HOSPITAL TUMPAT**

PURPOSE

- 1.1 This guideline provides information for doctors to assist patients wishing to avoid animal products, to make informed decisions about their treatment/care.

SCOPE

- 2.1 People with food allergies or intolerances, or who want to avoid animal products for religious or cultural reasons may want to know about the origin/source of drugs and excipients contained within their medicines, to enable them to make a fully informed decision about their treatment.^{1,2}

BACKGROUND

- 3.1 Many different medicines and vaccines, or specific formulations of a medicine such as tablets, capsules, creams or mixtures contain animal products or are animal derived.²
- 3.2 Animal-derived constituents in drugs can be present in both active and inactive ingredients. Examples of animal-derived drugs include anticoagulants such as heparin. Animal-derived inactive ingredients, collectively known as excipients, include products such as gelatin (for drug encapsulation) and stearic acid (solubilizing agent).² Further examples of pharmaceutical products known to be of animal origin are listed in the appendices. The use of animals has been a concern to patients with religious and cultural restrictions especially in a multicultural country like Malaysia.
- 3.3 The Drug Control Authority (DCA), Ministry of Health Malaysia requires pharmaceutical companies to declare if their products contain materials of animal origin.³ This is through displaying it on the immediate container and outer carton label stating the product has animal source like cows (bovine), pigs (porcine) and others. There are raw materials like magnesium stearate, glycerin or gelatin that may originate from animal source. The labelling can help users especially Muslims, Hindus, vegetarians and users with certain allergies to avoid using these products. Apart from that, if there are no other choices of medicines containing animal source that need to be used to treat patients, the hospital will seek consent from patients first before administering the medicines.

3.4 For this reason, healthcare professionals should take into consideration patients' religious beliefs and lifestyles when prescribing and administering medicines.^{1,3} Having a basic understanding of a patient's religious beliefs can improve the doctor-patient relationship and, consequently adherence to medication.² Informing patients about the origins of their proposed medication (if animal derived and no suitable synthetic alternative exists) will assist them in making informed decisions regarding their treatment.³ Patients must be properly counseled on the presence of animal traces in their medication and an informed consent should be obtained in front of the healthcare provider after they achieved mutual agreement on the treatment planned for the patient.³ The consent form should be kept inside the patient's case note for documentation.³

RELIGIOUS RESTRICTIONS

4.1 Table 1 Religious restrictions^{1,2,3,4}

RELIGION	RESTRICTIONS
Buddhism	<ul style="list-style-type: none"> - No fixed diet in Buddhism - Concept of non-violence/doing no harm is followed - Encourages a vegetarian diet
Hinduism	<ul style="list-style-type: none"> - Vegetarian diet is followed by many Hindus: no meat or eggs - Beef is prohibited as the cow is considered sacred
Islam	<ul style="list-style-type: none"> - Porcine products prohibited - Animal products must be killed/slaughtered under prescribed ritualistic way (<i>halal</i>) guidance - Products containing alcohol are prohibited.
Seventh Day Adventist	<ul style="list-style-type: none"> - Some is abstained from meat - A lacto-ovo vegetarian diet is recommended by avoiding meat, poultry, fish but eat eggs and dairy product - Abstain from alcohol
Sikh	<ul style="list-style-type: none"> - For some who are vegetarian – all animal products including egg prohibited. - For those who are not vegetarian, restrictions still include bovine and porcine products. - Not allowed to eat ritually slaughtered meat (eg. <i>Halal</i>, kosher)

LIST OF MEDICINES WITH ANIMAL ORIGIN IN HOSPITAL TUMPAT

1. Porcine

Generic Name	Brand Name	Therapeutic Class	Comment
Enoxaparin Sodium 40mg/60mg Injection	Clexane, Aventis	Anticoagulant, Antithrombotic	Porcine origin. ⁵

Table 2 : List of Medicines with Porcine Origin

2. Bovine

Generic Name	Brand Name	Therapeutic Class	Comment
Amoxicillin 250mg Capsule	Synamox, Idaman Pharma	Antibiotic, Penicillin	Source of capsule: Gelatin (Bovine) ⁶
Ampicillin Sodium + Sulbactam Sod 375mg Tablet	Unasyn, Pfizer	Antibiotic, Penicillin	Excipient: Lactose hydrate (bovine milk) and magnesium stearate (tallow oil) ⁷
Alfacalcidol 0.25mcg /Alfacalcidol 1mcg Capsule	One-Alpha®	Vitamin D Analog	Source of capsule: Gelatin (Bovine) ⁸
Calcitriol 0.25mcg Cap	Osteocap, Mega Lifesciences	Vitamin D Analog	Source of capsule: Gelatin (Bovine) ⁹
Celecoxib 200mg Cap	Celebrex™, Pfizer Rabirox	NSAID, Cyclooxygenase -2 Inhibitor	Excipient: Lactose monohydrate Source of capsule: Gelatin (Bovine) ^{10,11}
Charcoal, Activated 250mg Tablet	Dyna Charcoal Tablet	Antidotes, Other	Source of gelatin: Bovine ¹²
Clindamycin HCl 300mg Cap	Tidact®, Y.S. P	Antibiotic, Lincosamide	Source of capsule shell: Gelatin (Bovine) ¹³
Clofazimine 100mg Cap	Fazim, Lark Lab, India	Antibiotics , Leprostatic	Source of capsule shell: Gelatin (Bovine) ¹⁴
Cloxacillin 250mg Capsule,	Cloxacilla, Cloxacap	Antibiotic	Source of gelatin: Bovine ¹⁵
Didanosine 250 mg Enteric Coated Cap	Aurobindo	Antiretrovirals	Source of capsule: Gelatin (bovine) ¹⁶

Doxycycline 100 mg Cap	Pharmaniaga Doxycycline	Antibiotics, Tetracyclines derivatives	Source of capsule: Gelatin (bovine) ¹⁷
Esomeprazole 40mg Capsule	Emanera	Proton Pump Inhibitor	Source of capsule: Gelatin (bovine) ¹⁸
Fluconazole 100mg Capsule	Pharmaniaga	Antifungals	Source of capsule: Gelatin (bovine) ¹⁹
Gabapentin 300mg Capsule	Neuran	GABA Analogs	Source of capsule: Gelatin (bovine) ²⁰
Gemfibrozil 300mg	Pharmaniaga	Dyslipidaemic agents	Source of capsule: Gelatin (bovine) ²¹
Heparin Sodium 1000units/ml Injection	Heparinol® 1000IU/ml	Anticoagulant	Derived from bovine mucous ²²
Heparin Sodium 5000units/ml Injection	Unihepa 5000IU/ml	Anticoagulant	Derived from bovine mucous ²³
Hydrocortisone 10mg Tab	Hydrocortison Orion, Orion Pharma	Corticosteroid	Lactose (calf rennet) ²⁴
Itraconazole 100mg Cap	Inox, Hovid	Antifungal, azole derivative	Source of capsule: Gelatin (bovine) ²⁵
Mefenamic Acid 250mg Capsule	Dyfenamic	NSAIDs	Source of capsule: Gelatin (bovine) ²⁶
Methotrexate 2.5mg Tab	Methotrexate, Haupt Pharma	Antimetabolite, antineoplastic agent, antirheumatic, immunosuppressant agent	Lactose Monohydrate: Bovine. ²⁷
Omeprazole 20mg Cap	Omeprazole, Pharmaniaga	Gastric Acid Secretion inhibitor, proton pump inhibitor	Source of capsule: Gelatin (bovine). ²⁸
Oseltamivir Phosphate 75mg Cap	Fluhalt, Ranbaxy	Antiviral, influenza, neuraminidase inhibitor	Source of capsule: Gelatin (bovine). ²⁹
Phenytoin sodium 100mg cap	Dilantin, Pfizer	Anti-epilepsy	Source of capsule: Gelatin (bovine) ³⁰
Pregabalin 75mg cap	Lyrica, Pfizer	Anticonvulsant	Source of capsule: Gelatin (bovine) ³¹
Rabies Human Diploid Cell Vaccine, Vial	Verorab, Sanofi	Vaccine	Contains bovine serum albumin (not more than 50 nanogram per dose) ³²

Rifampicin 150mg Capsule, Rifampicin 300mg Capsule	Royce	Anti Tuberculosis	Source of capsule: Gelatin (bovine) ³³
Tramadol 50mg Capsule	Pengesic	Opioid	Source of capsule: Gelatin (bovine) ³⁴
Tranexamic Acid 250mg Capsule	Tren	Antifibrinolytic	Source of capsule: Gelatin (bovine) ³⁵
Protein Free Haemodialysate 10% Jelly	Solcoseryl 10% Jelly, Menarini	Wound healing topical agent	Protein free haemodialysis from calves' blood. ³⁶

Table 3 : List of Medicines with Bovine Origin

3. Equine (Horse)

Generic Name	Brand Name	Therapeutic Class	Comment
Conjugated Oestrogen 0.625mg Tab	Premarin, Pfizer	Oestrogen	Active ingredient derived from pregnant mare's urine. ³⁷
Antivenene Serum (Sea snake) 1000 units Injection	Sea Snake Antivenin, CSL Ltd, Australia	Antivenom	Prepared from the plasma of immunised horse. ³⁸
Antivenene Neuro Polyvalent Snake Injection	Polyvalent Snake Antivenin, Queen Saovabha, Thailand	Antivenom	Contains polyvalent equine immunoglobulins with specific antibodies. ³⁹
Antivenene Cobra Injection	Cobra Antivenin, Queen Saovabha, Thailand	Antivenom	Immunisation host: Equine (Horse). ⁴⁰
Antivenene King Cobra 0.8mg/ml Injection	King Cobra Antivenin, Queen Saovabha, Thailand	Antivenom	Immunisation host: Equine (Horse). ⁴¹
Antivenene Green Pit Viper 0.7mg/ml Injection	Green Pit Viper 0.7mg/ml Antivenin, Queen Saovabha, Thailand	Antivenom	Immunisation host: Equine (Horse). ⁴²

Table 4 : List of Medicines with Equine Origin

4. Chinese Hamster Ovary (CHO) Cells

Generic Name	Brand Name	Therapeutic Class	Comment
Methoxy Polyethylene Glycol- epoetin Beta	Micera, Roche	Hematopoietic Agent	Produced by Recombinant DNA technology in Chinese Hamster Ovary (CHO) cells ⁴³
Tenecteplase 10,000 units (50mg) Injection	Metalyse®, Boehringer Ingelheim	Fibrinolytic agent	Recombinant DNA technology in Chinese Hamster Ovary cell line ⁴⁴

Table 5 : List of Medicines with Chinese Hamster Ovary (CHO) Origin

5. Eggs

Generic Name	Brand Name	Therapeutic Class	Comment
Etomidate 20 mg /10ml Inj	Etomidate Lipuro, B. Braun	General Aesthetic	Egg Lecithin. ⁴⁵
Propofol 1% (10mg/ml) in 20mL Injection	Fresofol 1% MCT/LCT Emulsion for injection or infusion® Fresenius Kabi	General anesthetic; Sedative	Other ingredients contain purified egg phosphatides. ⁴⁶

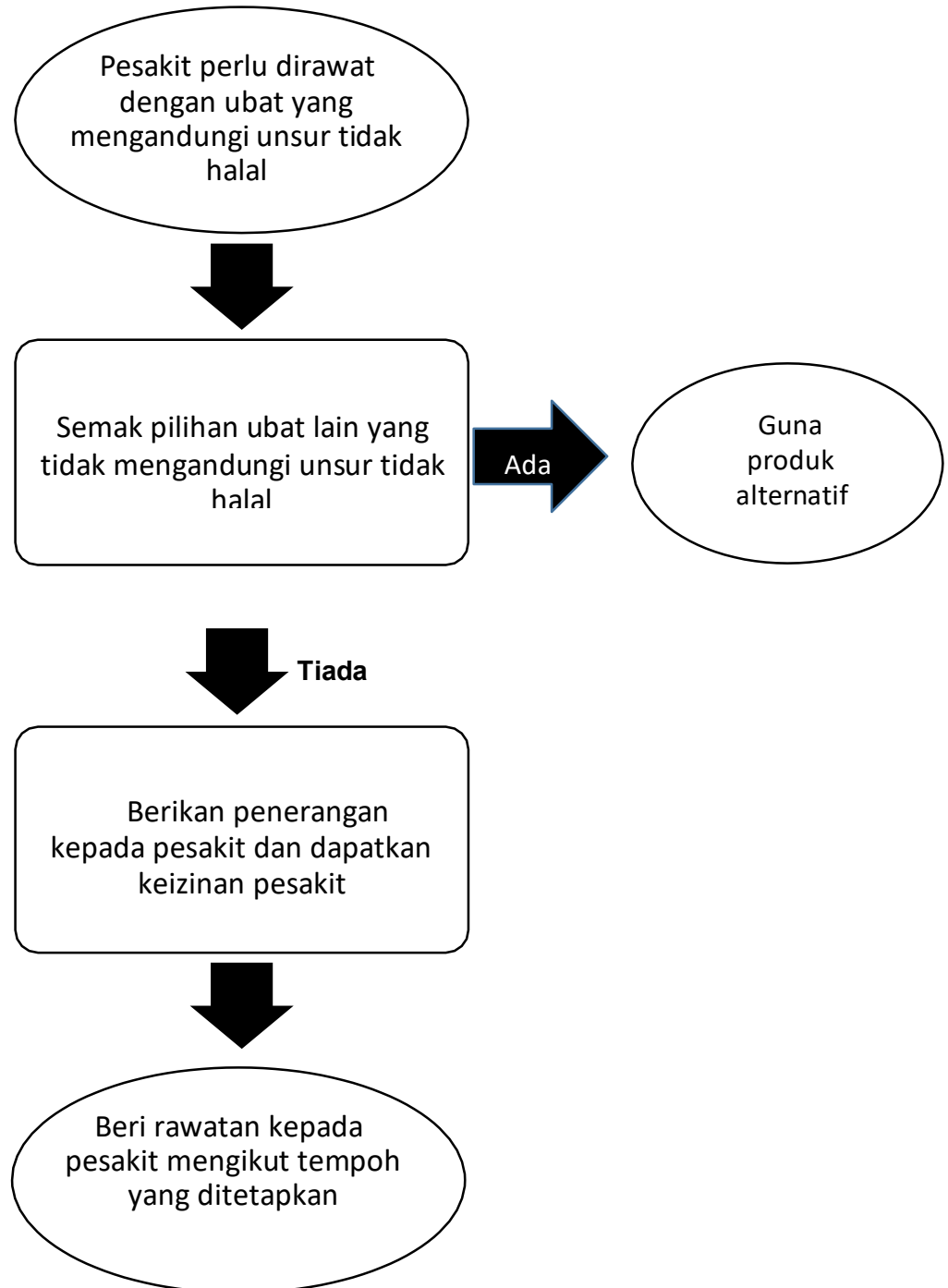
Table 6 : List of Medicines with Eggs Origin

6. Others

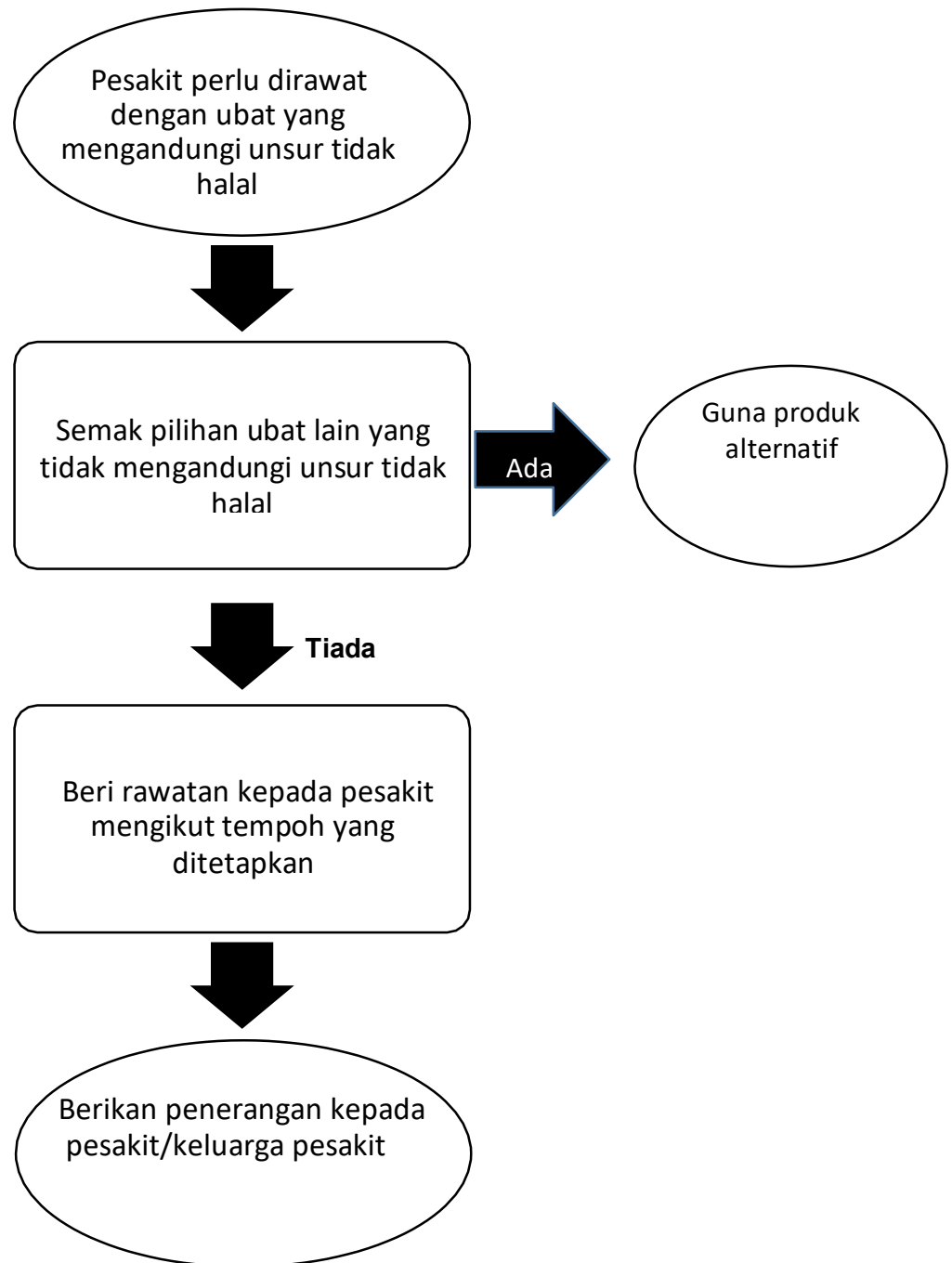
Generic Name	Brand Name	Therapeutic Class	Comment
Insulin Aspart 30% and Protaminated Insulin Aspart 70% 100IU/ml Injection	NovoMix	Antidiabetic	Contain protamine sulfate (protein derived from salmon sperm) ⁴⁷
Insulin Recombinant Synthetic Human, Intermediate-Acting 100IU/ml Injection	Insulatard, Insugen N	Antidiabetic	Contain protamine sulfate (protein derived from salmon sperm) ⁴⁸
Insulin Recombinant Synthetic Human,	Mixtard, Insugen 30/70	Antidiabetic	Contain protamine sulfate (protein derived from salmon sperm) ⁴⁹
Levothyroxine sodium 25mcg Tab, Levothyroxine sodium 100mcg Tab	Euthyrox, Merck	Thyroid hormone replacement	Contains fish gelatin. ^{50,51}

Lampiran 1: Carta Alir Penggunaan Ubat Mengandungi Sumber Tidak Halal

a. Rawatan Umum



b. Rawatan Kecemasan



**Lampiran 2: BORANG KEIZINAN UNTUK MERAWAT
MENGUNAKAN UBAT/PRODUK YANG MENGANDUNGI UNSUR
TIDAK HALAL**

Saya seperti nama dibawah telah dimaklumkan bahawa ***saya/anak/isteri/ibu/bapa**

Perlu menerima rawatan dengan ubat _____ bagi merawat penyakit

_____. Ubat ini

mengandungi unsur tidak halal dalam proses penghasilannya.

Penerangan yang jelas telah diberikan kepada saya bahawa rawatan ini perlu diberikan kerana tiada alternatif atau alternatif yang ada tidak setara dari segi keberkesanan dan keselamatan.

Oleh itu, saya faham akan penerangan tersebut dan ***bersetuju/tidak bersetuju**

untuk menerima ubat yang disarankan.

**Potong yang tidak berkenaan*

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REFERENCES:

1. Health Department, Queensland Government. Medicines/Pharmaceuticals of Animal Origin. Brisbane, Australia: Queensland Health. V3.0; November 2020.
2. What are excipients doing in medicinal products? Drug and Therapeutics Bulletin 2009;47:81-84. Available from: <https://dtb.bmj.com/content/47/7/81>
3. Pharmaceutical Services Programme, Ministry of Health Malaysia, 2017. Panduan Penggunaan Ubat-Ubatan yang Mengandungi Unsur Tidak Halal kepada Pesakit Muslim di Kementerian Kesihatan Malaysia. Available from: <https://www.pharmacy.gov.my/v2/sites/default/files/document-upload/garispeduan-penggunaan-ubatan-dengan-kandungan-tidak-halal.pdf>
4. Pharmaceutical Services Programme, Ministry of Health Malaysia, January 2018. Panduan Penggunaan Ubat-ubatan dari Perspektif Islam. Available from: <https://www.pharmacy.gov.my/v2/sites/default/files/document-upload/gubatislam-printed.pdf>
5. Product Leaflet: CLEXANE, Enoxaparin Sodium 60mg/0.6mL Inj. Aventis
6. Product Leaflet: SYNAMOX, Amoxicillin 250mg Cap. Idaman Pharma.
7. Product Leaflet: UNASYN, Ampicillin Sod + Sulbactam Sod 375mg Tab. Pfizer Pharmaceuticals LLC.
8. One-Alpha Capsule [package insert]. Ballerup, Denmark: Leo Pharma A/S; June 2023. Available from: https://quest3plus.bpfk.gov.my/frontend/attachment/66/pharma/231579/V_77585_20230630_134959_D3.pdf
9. Product Leaflet: OSTEOCAP, Calcitriol 0.25mcg Cap. Mega Lifesciences. Date: 23th January 2013.
10. Product Leaflet: CELEBREX TM, Celecoxib 200mg Cap. Pfizer Pharmaceuticals LLC.
11. Rabiros 200mg Capsule. Bandar Baru Bangi, Selangor: Pharmaniaga Manufacturing Berhad; June 2022.
12. Dyna Charcoal Tablet. Pulau Pinang, Malaysia: Dynapharm (M) Sdn. Bhd.; May 2021.
13. Product Leaflet: TIDACT®, Clindamycin 300mg Capsule. Y.S.P. Industries (M) Sdn Bhd.
14. Product Leaflet : FAZIM, Clofazimine 100mg Cap Capsules. Lark Laboratories (I) Ltd. Aug 2009.
15. Cloxacilla 250mg Capsule [package insert]. Perak, Malaysia: Idaman Pharma Manufacturing Sdn. Bhd.; November 2020.
16. Product leaflet: DIDANOSINE, Didanosine 250 mg Enteric Coated Capsule. Aurobindo.
17. Product leaflet: XIDOX, Doxycycline 100 mg Capsule. Idaman pharma.
18. Emanera [package insert]. Klang, Selangor: Pahang Pharmacy Sdn Bhd.; February 2021.
19. Product leaflet: FLUCONAZOLE 100mg Cap. Pharmaniaga Manufacturing Berhad.
20. Neuran 300mg Capsule [package insert]. Chemor, Perak; Hovid Bhd.; May 2018
21. Product leaflet: GEMFIBROZIL 300mg Cap. Pharmaniaga Manufacturing Berhad
22. Unihepa [package insert]. Klang, Selangor. Duopharma (M) Sdn Bhd; September 2019. Available from: https://quest3plus.bpfk.gov.my/frontend/attachment/17051/pharma/224614/V_54670_20211116_150359_D3.pdf
23. Heparinol 10 [package insert]. Kelantan, Malaysia: Ain Medicare Sdn. Bhd.; June 2018
24. Product leaflet: HYDROCORTISON ORION, Hydrocortison 10mg tablet. Orion Pharma. 20 April 2015.
25. Product Leaflet: INOX, Itraconazole 100mg. Hovid
26. Dyfenamic Capsule 250mg. Selangor, Malaysia: Duopharma (M) Sdn Bhd; March 2019.

27. Product Leaflet: Methotrexate 2.5mg. Haupt Pharma
28. Product Leaflet: OMEPRAZOLE, Omeprazole 20mg. Pharmaniaga
29. Product Leaflet: FLUHALT, Oseltamivir 75mg. Ranbaxy
30. Product leaflet: DILANTIN, phenytoin sodium 100mg capsule. Pfizer
31. Product leaflet: LYRICA, Pregabalin 75mg capsule. Pfizer
32. Product leaflet: VERORAB® Purified inactivated rabies vaccine. Sanofi- aventis Date: 19 August 2014
33. Royce Rifampicin Capsule. Negeri Sembilan, Malaysia: Royce Pharma Mfg. Sdn. Bhd.; 28 April 2017.
34. Pengesic Capsule. Chemor, Malaysia: Hovid Bhd.; January 2022
35. Tren 250mg Capsule. Selangor, Malaysia: Y.S.P Industries (M) Sdn. Bhd.; 20 July 2017
36. Product leaflet: SOLCOSERYL® Jelly/Ointment, Protein Free Haemodialysate 10% Jelly. Date: February 2014
37. Product Leaflet: PREMARIN®, Conjugated Oestrogen 0.625mg Tab. Pfizer.
38. Product leaflet: SEA SNAKE ANTIVENOM®, Sea Snake Antivenin, CSL Ltd, Australia. Date: 13 January 2014
39. Product leaflet: POLYVALENT SNAKE ANTIVENOM®, Antivenene Neuro Polyvalent Snake Injection. Date: April 2012
40. Product leaflet: COBRA ANTIVENIN®, Antivenene Cobra 10 ml Injection. Date: April 2012
41. Product leaflet: KING COBRA SNAKE ANTIVENIN ®, Antivenene King Cobra 0.8mg/ml Injection. Date: April 2012
42. Product leaflet: GREEN PIT VIPER 0.7MG/ML ANTIVENIN®, Antivenene Green Pit Viper 0.7mg/ml Injection. Date: April 2012
43. Product leaflet: MICERA, Methoxy Polyethylene Glycol-epoetin Beta. Roche
44. Metalyse [package insert]. Biberach/Riss, Germany; Boehringer Ingelheim Pharma GmbH & Co. KG: March 2023. Available from: https://www.ema.europa.eu/en/documents/product-information/metalyse-eparproduct-information_en.pdf
45. Etomidate-Lipuro [package insert]. Melsungen, Germany: B. Braun Melsungen AG; March 2023. Available from: https://quest3plus.bpfk.gov.my/frontend/attachment/820/pharma/223626/V_81513_20230620_161631_D3.pdf
46. Product leaflet: FRESOFOL 1% MCT/LCT Emulsion for injection or infusion®, Propofol 10mg/mL. Date: September 2006
47. NovoMix 30 Flexpen [package insert]. Chartres, France: Novo Nordisk Production SAS; March 2021
48. Insulatard [package insert]. Bagsvaerd, Denmark: Novo Nordisk A/S; 2021
49. Mixtard Injection [package insert]. Bagsvaerd, Denmark: Novo Nordisk A/S; 2021.
50. Product Leaflet: EUTHYROX, Levothyroxine sodium 25mcg. Merck
51. Product Leaflet: EUTHYROX, Levothyroxine sodium 100mcg. Merck