

臺北榮民總醫院 高警訊藥品品項

藥學部整理 095.06.01初版

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自 94 年 5 月 20 日起本院藥名特別嵌入「#」警示記號，提醒醫療人員加強確認處方。# 記號表示高警訊藥品 (high-alert medications，美國 ISMP (Institute for Safe Medication Practices) 定義高警訊藥品共有 22 類及 12 項特定品項。例如 Tramal retard # tab 100 mg (Tramadol) 表示此藥為高警訊藥品。欲減少用藥疏失及增進用藥安全，必須在用藥過程的各個環節加入防誤機制，藥名嵌入「#」記號可在醫師開立處方、藥師調劑、護理給藥、病人用藥、用藥後追蹤、藥品庫儲管理等環節，提供醫療人員加強注意確認，此創新作為應是預防用藥疏失並提昇用藥安全的有效方法之一。茲依據 ISMP 定義整理出本院高警訊藥品品項如表一、表二 (定期每月更新一次)。

依100年6月1日第128次藥事會決議，高警訊藥品之中，具接觸性細胞毒性之化療針劑、intravenous insulin infusion (IVII)、靜脈輸注之高單位heparin針劑、digoxin針劑、高濃度氯化鉀 (KCl) 針劑及神經肌肉阻斷注射劑(Esmeron® , Nimbex® , Relaxin®)，統稱為高危險藥品(high-risk medications)，護理給藥時需有兩位護理人員共同核對並簽名(double check, double sign)。

表一、22 類應提高警覺之藥品

藥品分類	本院現有品項
Adrenergic agonists, IV	Dopamin® (Dopamine) inj 200 mg/5 ml/amp Ephedrine® (Ephedrine) inj 40 mg/1 ml/amp Epinephrine® (Epinephrine) inj 1 mg/1 ml/amp Gendobu® (Dobutamine) inj 12.5 mg/ml 20 ml/vial Gipamine® (Dopamine 600 mg + D5W) inj 200 ml/bag Levophed® (Norepinephrine) inj 4 mg/4 ml/vial Norepinephrine® (Norepinephrine) inj 4 mg/4 ml/vial (替代 Levophed®) Precedex® (Dexmedetomidine) inj 100 mcg/ml 2 ml Proteranol-L® (Isoproterenol) inj 0.2 mg/ml 1ml Yutopar® (Ritodrine) inj 50 mg/5 ml/amp
Adrenergic antagonists, IV	Trandate® (Labetalol) inj 5 mg/ml 5 ml/amp
Anesthetic agents, general, inhaled and IV	Aerrane® (Isoflurane) inh 100 ml/bot Anesvan® (Propofol) inj 500 mg/50 ml/bot Citosol® (Thiamylal) inj 300 mg/vial Etomidate-lipuro® (Etomidate) inj 20 mg/10 ml/amp Fresofol® (Propofol) MCT/LCT inj 2% 50 ml/bot Ketalar® (Ketamine) inj 500 mg/10 ml/vial Propofol-Lipuro® “N” (Propofol) inj 1% 200 mg/20 ml Suprane® (Desflurane) inh 240 ml/bot Ultane® (Sevoflurane) inh 250 ml/bot
Antiarrhythmics, IV	Adenocor® (Adenosine) inj 3 mg/ml 2ml Esmolol® (Esmolol HCl) inj 10 mg/ml 10 ml Cordarone® (Amiodarone) inj 150 mg/3 ml/amp Herbesser® (Diltiazem) inj 50 mg/amp U-Sodin® (Verapamil) inj 5 mg/2 ml/amp (替代 Verpamil) Verpamil® (Verapamil) inj 5 mg/2 ml/amp Xylocaine® (Lidocaine) inj 2% 5 ml/amp
Antithrombotic agents	

Warfarin	Cofarin® (Warfarin) 1 mg/tab Orfarin® (Warfarin) 5 mg/tab
Heparin, low molecular weight, injection	Clexane® (Enoxaparin) inj 2000 antiXa iu/0.2 ml/syringe Clexane® (Enoxaparin) inj 6000 antiXa iu/0.6 ml/syringe
Heparin, unfractionated, IV	Agglutex® (Heparin) inj 5000 U/ 5 ml/vial Agglutex® (Heparin) inj 25000 U/ 5 ml/vial Hepac lock® (Heparin) flush 100 USP units/ml 10 ml/syringe
Factor Xa inhibitors	Eliquis® (Apixaban) FC tab 5 mg Eliquis® (Apixaban) FC tab 2.5 mg Lixiana® (Edoxaban) FC tab 30 mg Lixiana® (Edoxaban) FC tab 60 mg Xarelto® (Rivaroxaban) FC tab 10 mg Xarelto® (Rivaroxaban) FC tab 15 mg Xarelto® (Rivaroxaban) FC tab 20 mg
Direct thrombin inhibitors	Argatra® (Argatroban) inj 100 mg/ml 2.5 ml Pradaxa® (Dabigatran) 75 mg/cap Pradaxa® (Dabigatran) 110 mg/cap Pradaxa® (Dabigatran) 150 mg/cap
Thrombolytics/fibrinolytics, IV	Actilyse® (Tissue plasminogen activator) inj 50 mg/50 ml/vial Urokinase®-Green Cross (Urokinase) inj 60000 iu/vial
Glycoprotein IIb/IIIa inhibitors	Aggrastat® (Tirofiban) inj 12.5 mg/50 ml/bot
Cardioplegic solutions	Plegisol® solution 1000 ml
Chemotherapeutic agents, parenteral and oral	Abraxane® (Paclitaxel albumin-bound) inj 100 mg/vial Adriablastina® (Doxorubicin) inj 10 mg/5 ml/vial Adriamycin® (Doxorubicin) inj 10 mg/ 5 ml/vial Adcetris® (Brentuximab) inj 50 mg/vial Alecensa® (Alectinib) 150 mg/cap Alkeran® (Melphalan) 2 mg/tab Alkeran® (Melphalan) inj 50 mg/10 ml/vial Alimta® (Pemetrexed) inj 500 mg/vial Alimta® (Pemetrexed) inj 100 mg/vial Asadin® (Arsenic trioxide) inj 10 mg/10 ml/vial Besponsa® (Inotuzumab ozogamicin) inj 1 mg/vial BiCNU® (Carmustine) inj 100 mg/3 ml/vial Bleocin® (Bleomycin) inj 5 mg/amp Bleocin® (Bleomycin) inj 15 mg/vial Blinicyto® (Blinatumomab) inj 35 mcg/vial Busulfex® (Busulfan) inj 60 mg/vial Campto® (Irinotecan) inj 100 mg/5 ml/vial Carmuther® (Carmustine) inj 100 mg/vial Cecenu® (Lomustine) 40 mg/cap Cosmegen® (Dactinomycin) inj 500 mcg Cytosar® (Cytarabine) inj 500 mg/vial Cytarabine® (Cytarabine) inj 1000 mg/10 ml/vial Dacarbazine® (Dacarbazine) inj 200 mg/vial Dactilon® (Dactinomycin) inj 0.5 mg/vial Daunoblastina® (Daunorubicin) inj 20 mg/vial Eloxatin® (Oxaliplatin) conc. soln for infu. 50 mg Endoxan® (Cyclophosphamide) inj 200 mg/vial Endoxan SC® (Cyclophosphamide) 50 mg/tab Evoltra® (clofarabine) inj 20 mg/vial

Fytosid® (Etoposide) inj 100 mg/5 ml/vial
Fludara® (Fludarabine) inj 50 mg/vial
Fluoro-uracil® (5-Fluorouracil) inj 1 g/20 ml/vial
Folotyn® (Pralatrexate) inj 20 mg/1 ml
5-Fu® (5-Fluorouracil) inj 1 g/20 ml/vial (取代Fluoro-uracil)
Gemzar® (Gemcitabine) inj 200 mg/vial
Genetaxyl® cremless (Paclitaxel) inj 30 mg/5 ml/vial
Gliadel® wafer (Carmustine 7.7 mg/polifeprosan-2019 2.3 mg)
Halaven® (Eribulin) soln for # inj 0.5 mg/ml 2 ml
Holoxan® (Ifosfamide) inj 2 g/vial
Hycamtin® (Topotecan) inj 4 mg/vial
Hydrea® (Hydroxyurea) 500 mg/cap
Herceptin® (Trastuzumab) inj 440 mg/vial
Herceptin® (Trastuzumab) SC inj 600 mg/5 ml
Innomustine® (Bendamustine) inj 100 mg
Ixempra® (Ixabepilone) inj 15 mg
Kemoplat® (Cisplatin) inj 50 mg/50 ml/vial
Kadcyla® (Trastuzumab Emtansine) inj 100 mg/vial, 160 mg/vial
Kyprolis® (Carfilzomib) inj 60 mg/vial
Kyprolis® (Carfilzomib) inj 30 mg/vial
Leukeran® (Chlorambucil) 2 mg/tab
Leunase® (Asparaginase-L) inj 10000 iu
Lipo-Dox liposome® (Doxorubicin) inj 20 mg/10 ml/vial
Lysodren® "Corden" tab 500 mg (Mitotane)
Merkaptopurin® (Mercaptopurine) 50 mg/tab
Melphather® (Melphalan) inj 50 mg/10 ml
Methotrexate® (Methotrexate) 2.5 mg/tab
Methotrexate® (Methotrexate) inj 1 g/10 ml/vial
Methotrexate® (Methotrexate) inj 500 mg/5 ml/vial (替代原品項)
Methotrexate® (Methotrexate) inj 50 mg/2 ml/vial (替代原品項)
Mitomycin-C® (Mitomycin-C) inj 10 mg/vial
Mitoxantrone® (Mitoxantrone) inj 20 mg/10 ml/vial
Myleran® (Busulfan) 2 mg/tab
Natulan® (Procarbazine) 50 mg/cap
Navelbine® (Vinorelbine) inj 10 mg/1 ml/vial
Navelbine® soft (Vinorelbine) 20 mg/cap
Navelbine® soft (Vinorelbine) 30 mg/cap
OncoTICE® (Bacillus Calmette Guerin) 50 mg
Oxalip® (Oxaliplatin) inj 50 mg/10 ml/vial
Onivyde® (Irinotecan HCl liposome) inj 50 mg/10 ml/vial
Paraplatin® (Carboplatin) inj 150 mg/vial
Pharmorubicin® (Epirubicin) inj 10 mg/vial
Pharmorubicin® (Epirubicin) inj 50 mg/vial
Pharmorubicin® (Epirubicin) (TACE) inj 50 mg/vial
Pharmorubicin® (Epirubicin) (TACE) inj 10 mg/vial
Perjeta® (Pertuzumab) inj 420 mg/vial
Pomalyst® (Pomalidomide) 4 mg/cap
Revlimid® (Lenalidomide) cap 10 mg
Revlimid® (Lenalidomide) cap 25 mg
Taxol® (Paclitaxel) inj 30 mg/5 ml/vial
Taxotere® (Docetaxel) infu 20 mg/1 ml

	Tamos [®] (Temozolomide) 100 mg/cap Temodal [®] (Temozolomide) 20 mg/cap Temodal [®] (Temozolomide) 100 mg/cap Tepadina [®] (Thiotepa) inj 15 mg/vial Tepadina [®] (Thiotepa) inj 100 mg/vial Torisel [®] conc.(Temsirolimus) for # inj 30 mg/1.2 ml Topotecan [®] (Topotecan) inj 4 mg/vial (替代 Hycamtin [®]) TS-1 [®] (Tegafur 20 mg + Gimeracil 5.8 mg + Oteracil 19.6 mg) 20 mg/cap TS-1 [®] (Tegafur 25 mg + Gimeracil 7.25 mg + Oteracil 24.5 mg) 25 mg/cap Tagrisso [®] (Osimertinib) 80 mg/tab UFUR [®] (Tegafur 100 mg + Uracil 224 mg) /cap Velcade [®] "France" (Bortezomib) for inj 3.5 mg Venclexta [®] starting pack (Venetoclax 10 mg/50 mg/100 mg) Venclexta [®] (Venetoclax) 100 mg/tab Vepesid [®] (Etoposide) 50 mg/cap Vesanoid [®] (Tretinoin) soft cap 10 mg Vidaza [®] (Azacitidine) inj 100 mg/vial Vinblastine-DBL [®] (Vinblastine) inj 10 mg/10 ml/vial Vincristine-DBL [®] (Vincristine sulphate) inj 1 mg/1 ml Yondelis [®] (Trabectedin) inj 1 mg/vial Zavedos [®] (Idarubicin) inj 5 mg/vial Zavedos [®] (Idarubicin) cap 5 mg Zykadia [®] (Ceritinib) 150 mg/cap
Dextrose, hypertonic, 20% or greater	Dextrose [®] (Dextrose) inj 50% 500 ml/bag Vitagen [®] (Dextrose) inj 50% 20 ml/amp Glucose [®] (Dextrose) inj 50% 20 ml/amp (替代 Vitagen)
Dialysis solutions, peritoneal and hemodialysis	Bibag [®] (Sodium bicarbonate) powder 650 g Extraneal [®] (Icodextrin) PD 7.5% 2 L
Epidural or intrathecal medications	Marcaine [®] spinal (bupivacaine) inj 0.5 % 4 ml/amp Gablofen [®] (Baclofen) inj 50 mcg/1 ml Gablofen [®] (Baclofen) inj 10000 mcg/20 ml Gablofen [®] (Baclofen) inj 20000 mcg/20 ml Gablofen [®] (Baclofen) inj 40000 mcg/20 ml Spinraza [®] (Nusinersen) inj 12 mg/5 ml
Hypoglycemics, oral	Actos [®] (Pioglitazone) 30 mg/tab Amaryl [®] (Glimepiride) 2 mg/tab Ansures ER [®] (Metformin) 500 mg/tab Canaglu [®] (Canagliflozin) 100 mg/tab C.T.L. XR [®] (Metformin) 500 mg/tab (替代 Ansures) Deglu [®] (Acarbose) 50 mg/tab (替代 Glucobay) Diamicron MR [®] (Gliclazide) 60 mg/tab Diamin [®] (Gliclazide) 80 mg/tab Galvus [®] (vildagliptin) 50 mg/cap Glurenorm [®] (Gliquidone) 30 mg/tab Glucobay [®] (Acarbose) 50 mg/tab Glucobay [®] (Acarbose) 100 mg/tab Glucophage [®] (Metformin) 500 mg/tab Glufast [®] (Mitiglinide calcium hydrate) 10 mg/tab

	<p>Januvia® FC (Sitagliptin) 100 mg/tab Nesina® FC (Alogliptin) 25 mg/tab Novonorm® (Repaglinide) 1 mg/tab Onglyza® (Saxagliptin) 5 mg/tab Starlix® (Nateglinide) 120 mg/tab Trajenta® FC (Linagliptin) 5 mg /tab Jardiance® FC (Empagliflozin) 25 mg/tab Forxiga® FC (Dapagliflozin) 10 mg/tab</p>
Inotropic medications, IV	<p>Lanoxin® (Digoxin) inj 0.5 mg/2 ml/amp Primacor® (Milrinone) inj 10 mg/10 ml/ amp Simdax® conc. (Levosimendan) for Sol infu 2.5 mg/ml 5 ml</p>
Insulin, subcutaneous and IV	<p>Apidra® sol for pen (Insulin glulisine) 100 u/ml 3 ml Humalog Mix 25 penfill® (Insulin lispro) 300 IU/3 ml Humulin-N (NPH Human Insulin) inj 1000 iu/10 ml Humulin-R (Regular Human Insulin) inj 1000 iu/10 ml Insulatard HM (Insulin NPH-HM) inj 100 iu/ml 10 ml Insulin actrapid HM (Insulin regular-HM) inj 100 iu/ml 10 ml Lantus® pen (Insulin glargine) inj 300 iu/3 ml Levemir flexpen® (Insulin detemir) inj 300 iu/3 ml Novomix 30 penfill® (Insulin aspart biphasic) inj 300 iu/3 ml Novorapid FlexPen® (Insulin aspart)100 u/ml 3 ml Toujeo® soln (Insulin glargine) inj 300 iu/ml 1.5 ml</p>
Liposomal forms of drugs (e.g., liposomal amphotericin B)	<p>Ambisome® (Amphotericin B liposomal) inj 50 mg/vial Lipo-Dox liposome® (Doxorubicin) inj 20 mg/10 ml/vial Onivyde® (Irinotecan HCl liposome) inj 50 mg/10 ml/vial</p>
Moderate sedation agents, IV	<p>Dianlin® (Diazepam) inj 10 mg/2 ml/amp Dupin® (Diazepam) inj 10 mg/2 ml/amp Dormicum® (Midazolam) inj 5 mg/5 ml/amp Anxicam® (Lorazepam) inj 2 mg/1 ml/amp</p>
Moderate sedation agents, oral, for children	<p>Chloral hydrate® powder for oral sol 10% 30 ml Chloral hydrate® oral soln 100 mg/ml 10% 30 ml</p>
Narcotics/opiates, IV, transdermal and oral (including liquid concentrates, immediate- and sustained- release)	<p>Alfentanil-hameln® (Alfentanil) inj 0.5 mg/ml 2 ml(替代 Rapifen) Codeine phosphate® (Codeine phosphate) 30 mg/tab Codeine phosphate® (Codeine) 15 mg/ml/amp Durogesic® D-TRAN patch 12 mcg/hr (Fentanyl 2.1 mg) Durogesic® D-TRAN patch 25 mcg/hr (Fentanyl 4.2 mg) Durogesic® D-TRAN patch 50 mcg/hr (Fentanyl 8.4 mg) Fentanyl® (Fentanyl) inj 0.05 mg/ml 10 ml Fentanyl® (Fentanyl) inj 0.05 mg/ml 2 ml Fentanyl® Trans patch 2.5 mg/tap (25 mcg/hr) Fentanyl® Trans patch 5 mg/tap (50 mcg/hr) Jurnista® PR (Hydromorphone HCl) 8 mg/tab Morphine sulfate® (Morphine) 15 mg/tab Morphine HCl® (Morphine) 10 mg/1 ml/amp Morphine SR FC® (Morphine) 30 mg/tab Muaction SR® (Tramadol) 100 mg/tab MXL® (Morphine) 60 mg/cap (替代 OxyContin) Naldebain® (Nalbuphine sebacate) inj 75 mg/ml 2 ml OxyContin® CR (Oxycodone HCl) tab 10 mg OxyContin® CR (Oxycodone HCl) tab 20 mg</p>

	<p>OxyNorm® IR (Oxycodone HCl) cap 5 mg Pethidine® (Meperidine) inj 50 mg/1 ml/amp Painkyl® (Fentanyl citrate 0.31mg/Unit) buccal films 200 mcg Rapifen®(Alfentanil) inj 0.5 mg/ 2 ml/amp Remifentanil® (Remifentanil) inj 2 mg/vial Traceton® (Tramadol 37.5 mg+acetaminophen 325 mg) tab Tramal® (Tramadol) inj 100 mg/2 ml/amp Ultracet® (Tramadol 37.5 mg+acetaminophen 325 mg) tab</p>
Neuromuscular blocking agents	<p>Esmeron® (Rocuronium) inj 50 mg/5 ml/vial Genso® (Atracurium) inj 25 mg/2.5 ml (替代 Nimbex) Cisatracurium® Kabi inj 2 mg/ml 5 ml (替代 Nimbex) Nimbex® (Cisatracurium) inj 2 mg/ml 5 ml Relaxin® (Succinylcholine) inj 500 mg/vial</p>
Parenteral nutrition preparations	<p>Aminol-K® inj 3% 500 ml/bot Aminopoly-H® inj 500 ml (Amino acid 7% + Na 15 mEq) Aminofluid® inj 1000 ml (Amino acid 3% + 7.5 % glucose&electrolytes + Zn) Aminoleban® inj 500 ml (Amino acid 8% + Na 7 mEq + Cl 47 mEq) (取代Aminopoly-H) Amiyu® (Amino acid 7.4%) inj 200 ml Bfluid® inj 1000 ml (Amino acid 3% + 7.5% glucose & electrolytes + Vit B1) (取代Aminofluid) ClinOleic® emulsion (Fat emulsion 20%) inj 20% 250 ml/bg Dipeptiven® (N(2)-L-alanyl-L-glutamine) infusion 100 ml/bot Glycophos® (Sod. Glycerophosphate) infusion 20 ml/vial Lipovenoes® MCT (Fat emulsion 20 %) infusion 20 % 250 ml SMOFlipid® (Fat emulsion 20%) infusion 20% 250 ml SmofKabiven P1® (Amino acid+glucose+lipid) infu 1448 ml Oliclinomel® N7-1000 E (Amino acid+glucose+lipid) infu 1.5 L Oliclinomel® N4-550 E (Amino acid+glucose+lipid) infu 1.5 L</p>
Radiocontrast agents, IV	<p>Dotarem® (Meglumine gadoterate) inj 376.9 mg/ml/60 ml/bot Gadovist® (Gadobutrol) inj 604.72 mg/ml 15 ml/vial Gadovist® (Gadobutrol) inj 604.72 mg/ml 65 ml/vial Iopamiro-300® (Iopamidol) inj 612.4 mg/ml 10 ml/amp Iopamiro-370® (Iopamidol) inj 75.5 g/100 ml/bot Iopamiro-370® (Iopamidol) inj 75.5 g/200 ml/bot Lipiodol ultrafluide® (Ethiodized oil) inj 38% 10 ml/amp Magnevist® (Gadopentetic acid) inj 469 mg/ml/20 ml/vial MultiHance® (Gadobenate dimeglumine) inj 529 mg/ml/20 ml/vial Omnipaque® (Iohexol) inj 35 g Iodine/100 ml/vial Omniscan® (Gadodiamide) inj 0.5 mmol/ml 20 ml Optiray-320® (Ioversal) inj 68% 200 ml/bot Primovist® (Gadoxetic acid disodium) inj 181.43 mg/ml (0.25 mmol/ml) 10 ml/syringe Telebrix-30® (Meglumine and sodium ioxitalamate) inj 30% 100 ml/bot Ultravist-370® (Iopromide) inj 6.9 g/100 ml/bot Urografin® (Meglumine diatrizoate) inj 76% 50 ml/bot Xenetix® 350 (Iobitridol) inj 350 mg iodine/ml, 100 ml/bot</p>

Sterile water for injection, inhalation, and irrigation (excluding pour bottles) in containers of 100ml or more	Sterile water for injection 500ml,1000ml Sterile water for irrigation 2000ml
Sodium chloride injection, hypertonic, more than 0.9% concentration	Sodium chloride [®] (Sodium chloride) inj 3%, 500 ml/bot Sodium chloride [®] (Sodium chloride) inj 23.5%, 200 ml

表二、12 項應提高警覺之特定藥品

ISMP 訂定之 12 項特定藥品	本院現有品項
EPINEPHrine	Epinephrine 驗 (Epinephrine) inj 1 mg/1 ml/amp
Subcutaneous epoprostenol (Flolan),IV	無
Epoprostenol(Flolan), IV	無
Magnesium sulfate injection	Magnesium sulfate [®] (Magnesium sulfate) inj 10%, 20 ml/amp Magnesium sulfate [®] (Magnesium sulfate) inj 10%, 200 ml/bot
Methotrexate, oral, non-oncologic use	Methotrexate [®] (Methotrexate) 2.5 mg/tab
Oxytocin, IV	Oxocin™T.F.™ [®] (Oxytocin) inj 10 iu/1 ml Oxytocin [®] (Oxytocin) inj 10 iu/1 ml (替代 Oxocin) Duratocin [®] (Carbetocin) inj 100 mcg/1 ml
Nitroprusside, sodium, for injection	無
Potassium chloride for injection concentrate	Pot chloride [®] (Potassium chloride) inj 15%, 20 ml
Potassium phosphate injection	Potassium phosphate [®] (Potassium phosphate) inj 20 ml/amp
Vasopressin, IV or intraosseous	Minirin [®] (Desmopressin, DDAVP) inj 4 ug/ml 1 ml Glypressin [®] (Terlipressin) inj 1 mg, 5 ml Pitressin [®] (Vasopressin)inj syn. aq 20 u/1 ml

註：若有紅字標示部分即為新修訂品項