



A

- Additive injection, 108
- Add-O-Vial, 30, 77-78, 81
- ADD-Vantage system, 30
- Administration sheets, 120
- Allergic reaction, 13
- Allergies, personal protective equipment and, 2
- Amber bag, 33, 98
- Ampule
 - amber, 117
 - breaking neck of, 113, 117
 - critical sites, parts of, 114
 - dangers on, 114
 - disposal of, 118
 - drawing from, 116
 - finishing process for, 117-118
 - holding, 116
 - opening, 115
 - rotating, 117
 - supplies for, 113
 - wiping down, 115
- Animal hair, 40
- Anteroom
 - clean side of, 16
 - cleaning, 16
 - dirty side of, 16
 - forbidden items in, 17
 - hazardous compounding protocol for, 90
 - ISO rating for, 15
 - items in, 15-16
 - pressure gauge monitoring, 17
 - procedures performed in, 16
 - surface sampling in, 17
 - temperature monitoring in, 16

- Aseptic compounding
 - ancillary equipment for, 30-33
 - disposal equipment for, 33
 - proper tool selection for, 24-25
 - repeater pumps for, 34-36
 - supplies for, 25-30
- Aseptic technique, 15
 - for anteroom, 15-17
 - for compounding rooms, 17-19
- Automated dispensing cabinets, 124
- Auxiliary stickers, 32-33

B

- Bacteriostatic SWFI, 29
- Bags, 98
 - breaking, 15
 - for hazardous compounding, 94
 - for hazardous products, 99
 - label placement on, 53
 - port placement on, 4
 - small volume parenteral types of, 76
- Base solution bag
 - additive injection into, 108
 - cleaning, 107
- Beard covers, 40
- Bevel placement, 7
- Beyond use date (BUD), 111-112
 - category 1 CSPs and, 50
 - category 2 CSP and, 51
 - low risk, 50
 - medium risk, 50
 - short and immediate use, 50
 - urgent use CSPs and, 51

126 Aseptic Compounding Technique: Learning and Mastering the Ritual

Biohazardous bins, 112
Biohazards disposal, 34
Biological safety cabinet (BSC), 20, 58
 cleaning, 60-61
 forgotten supply item and, 111
 items in, 21
 procedures in, 22
Black bin, 34
Bottles, label placement on, 54
Broken glass, 114

C

Carpulets, 122-123
Chemotherapy
 extra steps for, 91
 gloves for, 44, 93, 99-100
 log for, 95-96, 112
 pads for, 93
 receiving, 90-91
 spill kit for, 110
 stickers for, 95, 97-98
 storage of, 90
 supplies for, 98
Clean room, 90
Cleaning
 after ampule use, 118
 bags, 98
 compounding supplies and, 63
 hazardous compounding supplies and, 59-60
 hood logs for, 63
 nonhazardous compounding supplies and, 59
 of base solution bag, 107
 of biological safety cabinet, 60-61
 of chemo gloves, 100
 of compounding aseptic containment isolator, 60-61
 of compounding aseptic isolator, 61-62
 of laminar airflow hood, 60
 repeater pump and, 62-63
Closed system transfer devices, 95, 109
Compound(s)
 checking, double-checking, 55
 displays of, 55
 expiration of, 51
 physical delivery of, 55
 pneumatic systems delivery of, 55
 warranting filters, 24-25
Compounding aseptic containment isolator (CACI), 20-21, 58
 cleaning, 61-62
 items in, 21
 procedures in, 22

Compounding aseptic isolator (CAI), 58
 cleaning, 61-62
 items in, 21
 procedures in, 22
Compounding rooms
 cleaning, 18
 electronic device sampling in, 19
 forbidden items in, 19
 ISO rating for, 17
 items in, 17
 of hazardous drugs, 52
 preparing for next compound in, 73
 pressure in, 18
 procedures performed in, 17-18
 surface sampling in, 18-19
 temperature in, 18
Containers, 29-30
Contamination, 114
Controlled substance
 compounding mess up, 123
 documentation for, 120-121
 drawing desired dose of, 121-122
 drawing waste for, 122
 jargon/lingo, 120
 labels for, 121
 secure transport for, 124
 storage of, 119
 supplies for, 121
 time management for, 121
 waste sheets for, 122
 waste witnessing for, 124

D

Deactivation, 60
Decontamination, 61
Diluents, 28-29, 77
Direct compounding area (DCA), 1, 2
 cleaning items in, 5
 supplies in, 3-4
Disinfecting, 61
Display
 ampule and, 117-118
 discarding item needed for, 72
 items, 73
 of hazardous drugs, 108
 of small volume parenterals, 86-87
 of syringe volume, 84
 preparing for while in hood, 73
Disposal equipment, 33-34
"Do Not Shake," 82
Drips, 13

E

Evacuated containers, 30

F

Face masks with ear loops, 41

Facial hair, 40

“Fatal if given intrathecally,” 97

Filter needle, 113-114

display of, 117

use of, 116

Filters

compounds warranting, 24-25

micron syringe, 33

Finished product bags, 98

Flagging, 84

G

Gloves

donning/removal of, 45-46

for anteroom gathering of supplies for hazardous compounding, 93

for chemotherapy, 44, 93, 99-100

for hazardous compounding, 96

regular, 44

sterile powder-free, 44

Gowns, 41, 96

H

Hair/hair covers, 40

Hand technique, 1-13

muscle fatigue and, 12

practice and, 12

procedures for, 2

shaking and, 12

Hand washing, 43-44

procedure, 41-42

with scrub sponge, 42-43

Hanging supplies, 4-5

Hazardous compounding

alerting supervisor and, 92

allowing time for, 92

checking, 55

chemotherapy and, 90-91

chemotherapy log for, 95-96

closed system transfer devices and, 95

extra supplies for, 93-94

personal protective equipment for, 96-97

primary engineering controls and, 89-90

supplies, cleaning, 59-60

tubing for, 94-95

Hazardous drugs, 25

chemotherapy log for, 112

compounding hood for, 52

delivery of, 112

displaying, 108

disposal bins and, 112

handling in vertical flow hood, 102-107

injecting into base solution, 108

labeling, 99, 109-110

leaking into gloves or syringe, 110-111

patient label and sealable container for, 111-112

sealing, 109

spills and, 110

undressing personal protective equipment and, 112

Hazardous product labeling, 99

Hood, 19

cleaning logs, 63

forbidden items in, 22

ISO ratings for, 21

movement in, 101

preparation for chemotherapy, 91

supplies placement in, 98

types of, 19-20

vents, 101

I

Injection into base solution, 108

Injection port savers, 31

number of times used, 31

Intradermal (ID), 24

Intrathecal (IT), 24

Intravenous (IV), 23

Intravenous admixture (IVA) seals, 32, 70, 84

Intravenous piggyback (IVPB), 23-24

Intravenous push (IVP), 24, 82

Inventory count, 120

L

Label(s), 111-112

administration directions on, 50

auxiliary, 51

beyond use dates, times on, 50

for compounded product, 99

for controlled substance, 121

for hazardous drugs, 109

location of, 49

medication, dose on, 49

on patient folder, 99

- on syringe, 84-85
- on transport bag, 99
- placement of, 53-54
- reconstitution information on, 51
- route of administration on, 50
- sheathing, 62
- signatures, initials on, 50
- time of administration on, 50
- total volume on, 49-50, 52, 85

Laminar airflow hood (LAH), 19, 57

- cleaning, 60
- dustcover removal from, 68
- items in, 21
- movement in, 2-3
- procedures in, 22
- 6-inch zone in, 1-2

Large volume parenteral compounding

- bottles in, 66
- discarding item needed for display in, 72
- drips in, 65
- finishing, 73-74
- flow rates in, 66
- for continuous infusions, 65
- for parenteral and peripheral parenteral nutrition, 65-66
- injecting into bag without shadowing in, 70
- IVA seals in, 70
- multiple compounding and, 72
- multiple drugs in hood at same time in, 69
- overfill in, 70-71
- placing supplies in hood for, 68
- range of, 65-66
- repeater pump use and empty bags, 70
- STAT order for, 72
- tools to alleviate pressure in, 67
- vented needles use in, 68
- vented spikes use in, 67-68
- vial reconstitution in, 66-67

Loaders, 123

Luer-to-Luer lock connector, 32, 82

M

- Makeup, 39
- Medication carts, 124
- Micron syringe filters, 33
- Movement, inside hood, 101
- Multiple compounding, 72

N

- Nails, 39

Needle(s)

- coring and, 8
- filter, 27, 113-114
- for small volume parenterals, 77
- holding angle of, 104-105
- inserting into vial, 7
- length and gauges of, 27
- manipulating in vertical flow, 101-102
- method for IV push, 82-83
- opening in vertical flow, 103
- parts of, 27
- placement of, 4
- recapping, 12
- safety, 28
- small/insulin, 27
- swapping, 11-12
- switching, 116-117
- transfer, 27, 79
- unwrapping, holding, 5-6
- use of, 28, 71
- vented, 28
- vial insertion of, 104
- waste, 121
- withdrawing from vial, 10-11

Needle cap

- placement of, 104
- rolling away from HEPA filter flow, 12

Negative pressure

- environment, 89-90
- vials and, 66-67

Nonhazardous compounding

- checking, 55
- supplies, cleaning, 59

Normal saline, 29

O

- Ocular vials, label placement on, 54
- Overfill, 53
 - of controlled substance, 121
 - of hazardous drugs, 110
 - of large volume parenterals, 70-71

P

- Parenteral administration routes, 23-24
- Perfume/cologne, 40
- Perpetual inventory, controlled substance, 119
- Personal protective equipment (PPE), 39-40
 - allergies and, 2
 - discarding, 73
 - donning order for, 40-41

- for hazardous compounding, 96-97
- for removing hazardous compounding, 47
- for removing nonhazardous compounding, 47
- remaining sterile, 46-47
- undressing of, 87, 112

PhaSeal, 109

Pneumatic tube, controlled substance transport by, 124

Positive pressure, large vials and, 67

Preservative free (PF), 29

Primary engineering controls, 19-22

- cleaning outside of, 62
- components of, 57-58
- hazardous compounding air flow and, 89

R

Reconstitution, 24, 52-53, 77

- by hand, 79-81
- information, 51
- in vertical flow hoods, 106-107
- small volume parenteral calculation for, 85
- taking longer than normal, 86

Red cap dropped, 86

Repeater pump(s), 34

- bag changing, 36
- calibration of, 35-36
- cleaning and, 62-63
- clearing memory of, 36
- empty bags and, 70
- IV push and, 83
- loading, 35
- needle changes and, 36, 71
- tube set line air clearance for, 36

Respirators, 97

S

Safety glasses, 40-41

Safety goggles, 96

Scrub sponge 41-42

Scrubs, 39

Sealing, 109

Secondary engineering controls

- in anteroom, 15-17
- in compounding rooms, 17-19

Security

- for controlled substance, 119
- red caps, 31-32

Shadow contamination, 70

Shaker, 82

Sharps container, 34

Shoe covers, 40

Shoes, 39

Sinks, 41

Small volume parenteral compounding, 75

- displaying, 86
- epidural bags in, 76
- flow rates for, 76
- flush and, 76
- intermittent infusion and, 75
- intravenous piggyback and, 75
- intravenous push and, 75, 82
- powder volume in, 85
- preparing for next compound, 87
- range of, 75-76
- reconstitution calculations for, 85
- supplies for, 77-84
- undressing personal protective equipment, 87

Smart sinks, 124

Spills, 13

- of hazardous drugs, 110

STAT orders, 72

Sterile containers, empty, 30

Sterile gauze, 30

Sterile sleeves, 41

- donning, 46

Sterile water for injection (SWFI), 28

Stickers, 13, 97-98

- auxiliary, 32-33
- triple, 33

Subcutaneous (sub-Q), 24

Supplies

- allergies and, 2
- chemotherapy checks for, 91
- disposal of, 36
- for hazardous compounding, 59-60, 90-92
- handling, laying out, 1-2, 3
- missing item in nonhazardous hood, 71-72
- multiple drugs in hood at same time, 69
- needle, syringe handling, 6
- nonhazardous, 59
- placement of, 3-5, 68, 98

Swabs, 30

Syringe(s)

- accuracy of measurement and, 25
- air in, 10, 105-106
- barrel of, 26
- calibration reading for, 26
- drawing medication into, 8
- hazardous products, 99
- IV admixture seals for, 32
- labeling, 54, 84-85
- manipulation in vertical flow hood, 101-102
- opening in vertical flow hood, 102-103
- oral (sterile and nonsterile), 26

130 Aseptic Compounding Technique: Learning and Mastering the Ritual

- placement of, 4
- plunger of, 26
- sending to patient floor protocol for, 83
- sizes of, 25
- slip tip vs Luer lock, 26
- tip of, 26
- types of, 26
- unwrapping, holding, 5-6
- volume checking, 11, 106
- waste, 121

- Syringe caps, 31-32
 - plastic, 84
 - rubber, 84

T

- Tamper tape, 84
- Time of administration, compound expiration and, 51
- Transfer needle, 79
- Transfer sheets, 120
- Transport bag, 99
- Trash bags, 94, 98
- Tubing
 - for hazardous compounding, 94-95
 - vented and non-vented, 31

V

- Vented needles, 68
- Vented spikes, 28, 67-68

- Vertical flow hood
 - item placement in, 101-102
 - movement in, 101
 - needles in, 103-105
 - opening syringes in, 102-103
 - reconstituting in, 106-107
 - spurting problem and, 106
 - syringe air and, 105-106
 - syringe volume checking in, 106
 - vial cleaning in, 102

- Vesicant, 97, 106

- Vial(s), 29

- cleaning in vertical flow hood, 102
- coring, 13
- IV admixture seals for, 32
- label placement on, 54
- manipulating in vertical flow hood, 101-102
- needle insertion into, 7
- 1-mL and spurting, 106
- placement of, 4
- pressure in, 9-10, 24
- when reconstitution is not desired dose, 86
- withdrawing needle from, 10-11

- Vial Mate, 29, 78-79

W

- Waste bin, 34
- Waste logs, 120, 122
- Workload, 91