Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

March 21, 2012 Webinar (Excellentia – ASC focus)

CHECK THE LABEL:

Is the Mask a Level 1, 2, or 3 and … what's the difference?

Kathy Stoessel, MS, BSN, RN
Senior Manager, Clinical Education
Kimberly-Clark Health Care

Check the Label: Is the Mask a Level 1, 2, or 3?
(and … what's the difference?)

Objectives

- Identify three reasons for face mask use in healthcare
- Discuss the roles of the FDA and ASTM as relates to medical face masks
- Recognize requirements for the new ASTM F2100-11 mask performance rating
- Describe how the ASTM F2100-11 rating can assist with mask selection

Face Masks in Healthcare Settings

Three purposes:

- Worn by healthcare personnel to **protect them** from contact with infectious splashes and sprays

Siegel JD, et al. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings.

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Face Masks in Healthcare Settings

Three purposes:

- Worn by healthcare personnel to **protect them** from contact with infectious splashes and sprays

- Worn by healthcare personnel to **protect patients** from exposure to infectious agents carried in a healthcare worker's mouth or nose

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Face Masks in Healthcare Settings

Three purposes:

- Worn by healthcare personnel to **protect them** from contact with infectious splashes and sprays

- Worn by healthcare personnel to **protect patients** from exposure to infectious agents carried in a healthcare worker's mouth or nose

- Worn by patients to limit potential dissemination of infectious respiratory secretions from the patient to others **(protect others)**

Siegel JD, et al. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings.

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Face Masks in Healthcare Settings

A mask may be used in combination with goggles or a face shield to protect the mouth, nose and eyes

Siegel JD, et al. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings.

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Check the Label: Is the Mask a Level 1, 2, or 3?
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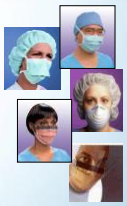
Face Masks in Healthcare Settings

- Are loose-fitting and disposable
- Differ in *design, breathability, fluid protection, large-particle droplet protection*
- May be labeled as surgical, isolation, dental or medical procedure masks
- May utilize ties, ear loops or over-the-head bands as fasteners



Institute of Medicine. Reusability of Facemasks During An Influenza Pandemic: Facing the Flu: The National Academies Press; 2006.
Brosseau LM. Surgical Mask Performance. *PPE for Healthcare Workers Against H1N1 Influenza A.*: IOM Workshop; 2009.
Center for Devices and Radiological Health. *Surgical Masks - Premarket notification [510(k)] submissions* 2004.

Which Mask Should You Choose?

Which Mask Should You Choose?

- Assess:
  - breathability
  - ease of removal without self-contamination
- Ensure the mask provides:
  - good face coverage and fit
  - compatibility with eye wear
  - adequate bacterial filtration and fluid resistance given the risk of exposure

Understand and use FDA and ASTM criteria for Medical Face Masks

Siegel JD, et al. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings.

What roles do the FDA and ASTM play?

FDA: Food and Drug Administration

The Food and Drug Administration (FDA):

- oversees the sale and marketing of surgical masks

Oberg T, Brosseau LM. Surgical mask filter and fit performance. *Am. J. Infect. Control.* May 2008;36(4):276-282.

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What is a surgical mask?

<u>According to the FDA</u>:

A surgical mask:

1. must meet FDA criteria
2. may be labeled as:
   - surgical,
   - laser,
   - isolation,
   - dental, or
   - medical procedure masks

The Food and Drug Administration (FDA):

- oversees the sale and marketing of surgical masks
- recommends that manufacturers demonstrate mask performance in 4 areas:
  - fluid resistance
  - differential pressure
  - filter efficiency
  - flammability

Oberg T, Brosseau LM. Surgical mask filter and fit performance. *Am. J. Infect. Control.* May 2008;36(4):276-282.

The Food and Drug Administration (FDA):

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- recommends that manufacturers demonstrate mask performance in 4 areas:
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  - differential pressure
  - filter efficiency
  - flammability

The FDA recognizes ASTM International test standards

Oberg T, Brosseau LM. Surgical mask filter and fit performance. *Am. J. Infect. Control.* May 2008;36(4):276-282.

ASTM International

- ASTM International is one of the world's largest standards developing organizations

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- ASTM standards are voluntary and are used globally in:
  - **research and development**
  - **quality systems**
  - **commercial transactions**
  - **product testing and acceptance**

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ASTM F2100:

Standard Specification for Performance of Materials Used in Medical Face Masks

- This standard specifies test results required for labeling mask levels of barrier performance
- Tests performed:
  - fluid resistance
  - differential pressure (breathability)
  - bacterial filtration efficiency
  - particulate filtration efficiency
  - flame spread

ASTM F2100-11

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

March 21, 2012 Webinar (Excellentia – ASC focus)

ASTM F2100:

Standard Specification for
Performance of Materials Used in Medical Face Masks

ASTM F2100:

- **does NOT evaluate** *medical face masks for regulatory approval as respirators*
- **does NOT evaluate** *medical face mask design, fit or facial sealing properties*

ASTM F2100-11

ASTM Standard F2100

Medical Face Mask Material Requirements

CHARACTERISTIC	TEST
Resistance to penetration by synthetic blood, *minimum pressure in mm Hg for pass result*	*ASTM Standard: F1862*
Differential pressure, *mm H2O/cm2*	*Military Standard: MIL-M-36954C*
Bacterial filtration efficiency (BFE) *(3 micron aerosol of staph aureus)*	*ASTM Standard: F2101*
Sub-micron particulate filtration efficiency (PFE) *at 0.1 micron*	*ASTM Standard: F2299*
Flame spread	*Federal Standard:16 CFR Part 1610*

Why do you need a fluid resistant mask?

Wearing a fluid resistant mask helps protect the wearer from mucosal contact with, or inhaling potentially infectious splashes and sprays

Not all masks are fluid resistant!

CDC/HICPAC 2007 Guideline: Preventing Transmission of Infectious Agents in Health Care Settings.

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Fluids potentially infected with bloodborne pathogens include:

- blood
- semen
- vaginal secretions
- cerebrospinal fluid
- synovial fluid and peritoneal fluid
- amniotic fluid
- saliva in dental procedures
- any body fluid that is visibly contaminated with blood, and … *all body fluids in situations where it is difficult or impossible to differentiate between body fluids*

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Examples of increased risk of splash, spray, amount of fluid/blood contamination

- Use of "splatter" instruments *(e.g., high-speed hand pieces, saws, burs)*
- Irrigating wounds and/or suctioning
- Arterial spurts

"Splatter" instruments and air-water syringes create a visible spray that contains droplets of water, saliva, blood, microorganisms, and other debris which can land on the healthcare worker, nearby surfaces or the patient.

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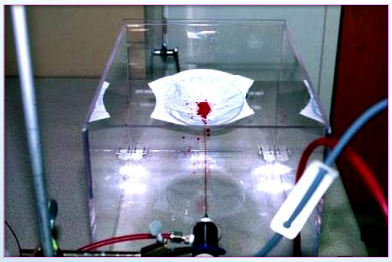
Examples of increased risk of splash, spray, amount of fluid/blood contamination

↑ VELOCITY
↑ VOLUME

↑ exposure risk to bloodborne pathogens

Resistance to Penetration by Synthetic Blood *ASTM F1862*



Pass/Fail Results

Challenge: 80, 120 and 160mm Hg fluid stream pressure

What is Differential Pressure (ΔP) and why is it important?

ΔP measures the effort it takes to force air through the mask material

The lower the ΔP, the more breathable and comfortable the mask

Differential Pressure Test

MIL-M-36954 C: ΔP

Comfort Scale used in Delta-P testing

Score	Perception
Above 5.0	hot
4.0 to 5.0	very warm
3.0 to 4.0	warm
2.0 to 3.0	cool
1.0 to 2.0	very cool

http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm072549.htm#9 Accessed 8.8.11

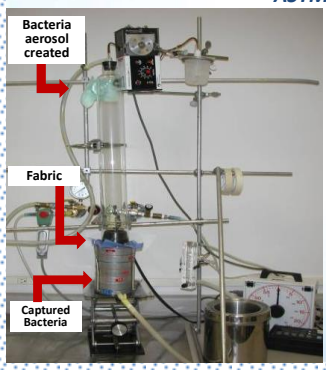
What are the BFE, PFE – Why are they important?

BFE and PFE describe mask performance for bacteria filtration efficiency (BFE) and particle filtration efficiency (PFE)

The higher the percentage, the more the mask prevents the passage of bacteria or particles

Bacterial Filtration Efficiency (BFE)

ASTM F2101



Challenge bacteria:
3 micron aerosol of *Staphylococcus aureus*

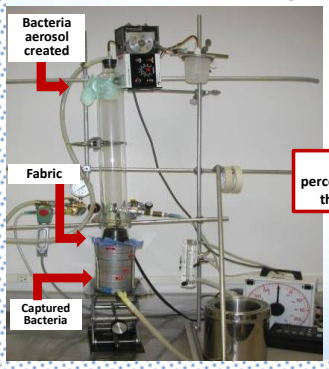
How Small is a Micron?

Particle	Particle Size (in microns or µm)
One Inch	25,400
Dot (.)	615
Textile Fibers	10 – 1,000
Red Blood Cells	5 – 10
Mycobacterium tuberculosis	2-4 in length; 0.2-0.5 in width
Staphylococcus aureus bacteria	0.8 – 1.0
Streptococcus pneumoniae bacteria	0.9
Rhinovirus - virus	0.023

Adapted from The Engineering ToolBox http://www.engineeringtoolbox.com/particle-sizes-d_934.html Accessed 3.8.11, and Clean Air Solutions http://www.camfilfar.com Accessed 7.8.11

Bacterial Filtration Efficiency (BFE)

ASTM F2101



Challenge bacteria:
3 micron aerosol of *Staphylococcus aureus*

Results are expressed in percentage (%) that does NOT pass through the fabric at a given aerosol flow rate

As an example…

If barrier fabric is challenged with 2,200* bacteria:

% Filtration Efficiency	# Bacteria pass through fabric
50%	1,100
95%	110
96%	88
97%	66
98%	44
99%	22

*Number of *staphylococcus aureus* used to challenge the barrier fabric tested in ASTM F2101

- Is there a meaningful difference between a mask that offers a 95% BFE versus 99.7% BFE?

95% BFE indicates **5%** of the aerosolized bacteria used in testing **passed through** the mask material

99.7% BFE indicates only **0.3%** of the aerosolized bacteria **passed through** the mask material

Particle Filtration Efficiency (PFE)

ASTM F2299/ ASTM F2299M - 03 (Reapproved 2010)

Sub-micron particulate filtration efficiency *at 0.1 micron*

Effectiveness of a material to filter aerosol particles *(latex particles)*

Results are expressed in percentage (%) that does NOT pass through the fabric at a given aerosol flow rate

What is Flammability … why is it important?

The rate at which the material burns determines the level of flammability

16 CFR Part 1610 Standard for the Flammability of Clothing Textiles

(Flame Spread)

A minimum of a 3.5 second burn rate is required to pass with a Class 1 rating

leatherusa.org Accessed 3.9.11 36

As of April 2011,
ASTM Standard F2100-11

Masks tested using this standard specification will be labeled with LEVELS OF BARRIER PERFORMANCE

On the Level: *The New ASTM F2100 Mask Performance Rating*

As of April 2011…

ASTM F2100-11:
Standard Specification for Performance of Materials Used in Medical Face Masks

-11 Indicates the Standard was updated in the year 2011

Update!

ASTM Standard F2100-11

- Five required tests remain the same
- Change…
  - From: "Performance Class" (Low, Moderate and High)
  - To: "**Performance Level**" (1,2 and 3)*
- Graphic of performance level REQUIRED on the labeling of the primary packaging

* NOTE THAT THERE ARE ONLY 3 PERFORMANCE LEVELS

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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ASTM Standard F2100-11

Update!

Medical Face Mask Material Requirements by Performance LEVEL

CHARACTERISTIC	TEST	LEVEL 1 Barrier
Resistance to penetration by synthetic blood, *minimum pressure in mm Hg for pass result*	*ASTM F1862*	80
Differential pressure, *mm H2O/cm2*	*4.4.1.2 of MIL-M-36954C*	< 4.0
Bacterial filtration efficiency	*ASTM F2101*	≥ 95%
Sub-micron particulate filtration efficiency *at 0.1 micron*	*ASTM F2299*	≥ 95%
Flame spread	*16 CFR Part 1610*	Class 1

ASTM Standard F2100-11

Update!

Medical Face Mask Material Requirements by Performance LEVEL

CHARACTERISTIC	TEST	LEVEL 1 Barrier	LEVEL 2 Barrier
Resistance to penetration by synthetic blood, *minimum pressure in mm Hg for pass result*	*ASTM F1862*	80	**120**
Differential pressure, *mm H2O/cm2*	*4.4.1.2 of MIL-M-36954C*	< 4.0	**< 5.0**
Bacterial filtration efficiency	*ASTM F2101*	≥ 95%	**≥ 98%**
Sub-micron particulate filtration efficiency *at 0.1 micron*	*ASTM F2299*	≥ 95%	**≥ 98%**
Flame spread	*16 CFR Part 1610*	Class 1	Class 1

ASTM Standard F2100-11

Update!

Medical Face Mask Material Requirements by Performance LEVEL

CHARACTERISTIC	TEST	LEVEL 1 Barrier	LEVEL 2 Barrier	LEVEL 3 Barrier
Resistance to penetration by synthetic blood, *minimum pressure in mm Hg for pass result*	*ASTM F1862*	80	120	**160**
Differential pressure, *mm H2O/cm2*	*4.4.1.2 of MIL-M-36954C*	< 4.0	< 5.0	< 5.0
Bacterial filtration efficiency	*ASTM F2101*	≥ 95%	≥ 98%	≥ 98%
Sub-micron particulate filtration efficiency *at 0.1 micron*	*ASTM F2299*	≥ 95%	≥ 98%	≥ 98%
Flame spread	*16 CFR Part 1610*	Class 1	Class 1	Class 1

Check the Label: Is the Mask a Level 1, 2, or 3? (… and What's the Difference?)

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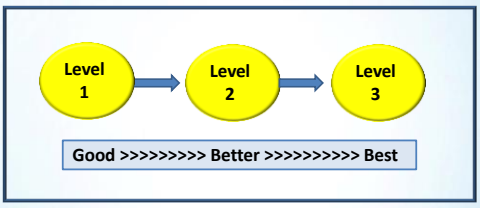

ASTM F2100-11 requires a graphic display on the packaging stating the mask performance level

Examples …

ASTM Standard F2100-11

Level 1 — 2 — 3

	Level 1	Level 2	Level 3
ASTM F1862 (Fluid Resistance)	80 mm Hg	120 mm Hg	160 mm Hg
MIL-M-36954 C: ΔP (Breathability)	< 4 mm H_2O	< 5 mm H_2O	< 5 mm H_2O
ASTM F2101: BFE (Filtration 3µm)	≥ 95%	≥ 98%	≥ 98%
ASTM F2299: PFE (Filtration 1µm)	≥ 95% @ 0.1 micron	≥ 98% @ 0.1 micron	≥ 98% @ 0.1 micron
16 CFR Part 1610: Flame Spread (Flammability)	Class 1	Class 1	Class 1

Disclaimer: This sample is for educational purposes only.

ASTM Standard F2100-11

1 — Level 2 — 3

	Level 1	Level 2	Level 3
ASTM F1862 (Fluid Resistance)	80 mm Hg	120 mm Hg	160 mm Hg
MIL-M-36954 C: ΔP (Breathability)	< 4 mm H_2O	< 5 mm H_2O	< 5 mm H_2O
ASTM F2101: BFE (Filtration 3µm)	≥ 95%	≥ 98%	≥ 98%
ASTM F2299: PFE (Filtration 1µm)	≥ 95% @ 0.1 micron	≥ 98% @ 0.1 micron	≥ 98% @ 0.1 micron
16 CFR Part 1610: Flame Spread (Flammability)	Class 1	Class 1	Class 1

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Check the Label: Is the Mask a Level 1, 2, or 3? (… and What's the Difference?)

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ASTM Standard F2100-11

1 —— 2 ——→ Level 3

	Level 1	Level 2	Level 3
ASTM F1862 (Fluid Resistance)	80 mm Hg	120 mm Hg	160 mm Hg
MIL-M-36954 C: ΔP (Breathability)	< 4 mm H_2O	< 5 mm H_2O	< 5 mm H_2O
ASTM F2101: BFE (Filtration 3μm)	≥ 95%	≥ 98%	≥ 98%
ASTM F2299: PFE (Filtration 1μm)	≥ 95% @ 0.1 micron	≥ 98% @ 0.1 micron	≥ 98% @ 0.1 micron
16 CFR Part 1610: Flame Spread (Flammability)	Class 1	Class 1	Class 1

Disclaimer: This sample is for educational purposes only.

What about masks already on the market?

Typically, the FDA does not apply standards retroactively.

If an FDA approved product is currently in the market with a specific performance class *(i.e., low barrier, moderate barrier, high barrier)* it will be allowed to stay.

Which Mask Should You Choose?

Considerations for Mask Selection

Follow appropriate precautions

(i.e. standard, contact, droplet, airborne)

Considerations for Mask Selection

Precautions	Applies to	Mask selection
Standard	**All Patients**	**Dependent upon:** • **HCW-patient interaction** • **Anticipated blood/body fluid/pathogen exposure**

CDC/HICPAC 2007 Guideline: Preventing Transmission of Infectious Agents in Health Care Settings.

Considerations for Mask Selection

Precautions	Applies to	Mask selection
Standard	**All patients**	**Dependent upon:** • **HCW-patient interaction** • **Anticipated blood/body fluid/pathogen exposure**
Contact	**Patients with a disease/condition transmitted via contact (e.g., *clostridium difficile*, head lice)**	**Dependent upon:** • **HCW-patient interaction** • **Anticipated blood/body fluid/pathogen exposure** • ***Pathogen***

CDC/HICPAC 2007 Guideline: Preventing Transmission of Infectious Agents in Health Care Settings.

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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Considerations for Mask Selection

Precautions	Applies to	Mask selection
Standard	All patients	Dependent upon: • HCW-patient interaction • Anticipated blood/body fluid/pathogen exposure
Contact	Patients with a disease/condition transmitted via contact (e.g., *clostridium difficile*, head lice)	Dependent upon: • HCW-patient interaction • Anticipated blood/body fluid/pathogen exposure • *Pathogen*
Droplet *(>5 microns)*	**Patients with a disease/condition transmitted via droplets (e.g., whooping cough, adenovirus, rhinovirus)**	**Wear a mask for close contact with infectious patient**

CDC/HICPAC 2007 Guideline: Preventing Transmission of Infectious Agents in Health Care Settings.

How do you know if your mask will protect you from infectious microorganisms?

Look at the package!

The new ASTM F2100-11 standard requires a graphic display on the packaging stating the mask performance level.

Considerations for Mask Selection

Procedure: Anticipate low amounts of blood/fluid, spray and/or aerosol exposure

Possible Procedures *include**:
- simple excisional biopsies
- ophthalmological procedures
- simple ear, nose, and throat procedures

* These examples are not intended to be all–inclusive or intended to be a substitute for professional judgment and experience.

Association for the Advancement of Medical Instrumentation (2005). Selection and use of protective apparel and surgical drapes in health care facilities. AAMI TIR11:2005.

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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Considerations for Mask Selection

Procedure: Anticipate low amounts of blood/fluid, spray and/or aerosol exposure

	Level 1	Level 2	Level 3
ASTM F1862 (Fluid Resistance)	80 mm Hg	120 mm Hg	160 mm Hg
MIL-M-36954 C: ΔP (Breathability)	< 4 mm H_2O	< 5 mm H_2O	< 5 mm H_2O
ASTM F2101: BFE (Filtration 3μm)	≥ 95%	≥ 98%	≥ 98%
ASTM F2299: PFE (Filtration 1μm)	≥ 95% @ 0.1 micron	≥ 98% @ 0.1 micron	≥ 98% @ 0.1 micron
16 CFR Part 1610: Flame Spread (Flammability)	Class 1	Class 1	Class 1

Level 1 mask as determined by ASTM F2100-11

Considerations for Mask Selection

Procedure: Anticipate moderate amounts of blood/fluid, spray and/or aerosol exposure

Possible Procedures *include**:
- Arthroscopic orthopedic procedures
- Endoscopic urological procedures

* These examples are not intended to be all–inclusive or intended to be a substitute for professional judgment and experience.

Association for the Advancement of Medical Instrumentation (2005). Selection and use of protective apparel and surgical drapes in health care facilities. AAMI TIR11:2005.

Considerations for Mask Selection

Procedure: Anticipate moderate amounts of blood/fluid, spray and/or aerosol exposure

	Level 1	Level 2	Level 3
ASTM F1862 (Fluid Resistance)	80 mm Hg	120 mm Hg	160 mm Hg
MIL-M-36954 C: ΔP (Breathability)	< 4 mm H_2O	< 5 mm H_2O	< 5 mm H_2O
ASTM F2101: BFE (Filtration 3μm)	≥ 95%	≥ 98%	≥ 98%
ASTM F2299: PFE (Filtration 1μm)	≥ 95% @ 0.1 micron	≥ 98% @ 0.1 micron	≥ 98% @ 0.1 micron
16 CFR Part 1610: Flame Spread (Flammability)	Class 1	Class 1	Class 1

Level 2 mask as determined by ASTM F2100-11

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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Considerations for Mask Selection

Procedure: Anticipate high amounts of blood/fluid, spray and/or aerosol exposure

Possible Procedures *include**:
- Orthopedic procedures without a tourniquet
- Trauma procedures
- Caesarean sections

* These examples are not intended to be all–inclusive or intended to be a substitute for professional judgment and experience.

Association for the Advancement of Medical Instrumentation (2005). Selection and use of protective apparel and surgical drapes in health care facilities. AAMI TIR11:2005.

Considerations for Mask Selection

Procedure: Anticipate high amounts of blood/fluid, spray and/or aerosol exposure

	Level 1	Level 2	Level 3
ASTM F1862 (Fluid Resistance)	80 mm Hg	120 mm Hg	160 mm Hg
MIL-M-36954 C: ΔP (Breathability)	< 4 mm H_2O	< 5 mm H_2O	< 5 mm H_2O
ASTM F2101: BFE (Filtration 3µm)	≥ 95%	≥ 98%	≥ 98%
ASTM F2299: PFE (Filtration 1µm)	≥ 95% @ 0.1 micron	≥ 98% @ 0.1 micron	≥ 98% @ 0.1 micron
16 CFR Part 1610: Flame Spread (Flammability)	Class 1	Class 1	Class 1

Level 3 mask as determined by ASTM F2100-11

Considerations for Mask Selection

Precautions	Applies to	Mask selection
Standard	All patients	Dependent upon: • HCW-patient interaction • Anticipated blood/body fluid/pathogen exposure
Contact	Patients with a disease/condition transmitted via contact (e.g., *clostridium difficile*, head lice)	Dependent upon: • HCW-patient interaction • Anticipated blood/body fluid/pathogen exposure • *Pathogen*
Droplet *(>5 microns)*	Patients with a disease/condition transmitted via droplets (e.g., whooping cough, adenovirus, rhinovirus)	Wear a mask for close contact with infectious patient
Airborne *(droplet nuclei: ≤5 microns)*	**Patients with a disease/condition transmitted via droplet nuclei (e.g., chicken pox, M. tuberculosis)**	**Wear N95 or higher level respirator with infectious patient**

CDC/HICPAC 2007 Guideline: Preventing Transmission of Infectious Agents in Health Care Settings.

Check the Label: Is the Mask a Level 1, 2, or 3?

POLL QUESTION

Before today, were you aware of ASTM F2100 and its role in identifying levels of barrier performance?

- ❑ Yes
- ❑ Not Sure
- ❑ No

Check the Label: Is the Mask a Level 1, 2, or 3?

POLL QUESTION

Given the information just reviewed on performance barrier levels as defined by ASTM F2100-11, what mask would you choose to wear most frequently on a daily basis:

- ❑ Level 1
- ❑ Level 2
- ❑ Level 3
- ❑ Not Sure
- ❑ Need more information

Check the Label: Is the Mask a Level 1, 2, or 3?

POLL QUESTION

In the future, you will look for the ASTM F2100 level of barrier performance on the mask packaging.

- ❑ Yes
- ❑ No
- ❑ Not Sure
- ❑ Need more information

ASTM F2100:

Standard Specification for
Performance of Materials Used in Medical Face Masks

It is the responsibility of the user to establish appropriate safety and health practices

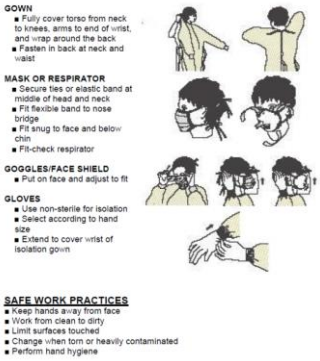
ASTM F2100-11

Mask *(donning)*

- **Secure ties or elastic band at middle of head and neck**
- **Fit flexible band to nose bridge**
- **Fit snug to face and below chin**

CDC/HICPAC 2007 Guideline - Preventing Transmission of Infectious Agents in Health Care Settings

Figure.
Example of Safe Donning and Removal of Personal Protective Equipment (PPE)



Check the Label: Is the Mask a Level 1, 2, or 3?

POLL QUESTION

I always ensure that the mask I don fits correctly and completely covers my nose and mouth.

- ❑ Strongly agree
- ❑ Agree
- ❑ Unsure
- ❑ Disagree
- ❑ Strongly disagree
- ❑ Haven't thought about it

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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Mask *(donning)*

- Secure ties or elastic band at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin

Safe Work Practices

- **Keep hands away from face**
- **Work from clean to dry**
- **Limit surfaces touched**
- **Change when torn or heavily contaminated**
- **Perform hand hygiene**

CDC/HICPAC 2007 Guideline - Preventing Transmission of Infectious Agents in Health Care Settings

Figure.
Example of Safe Donning and Removal of Personal Protective Equipment (PPE)

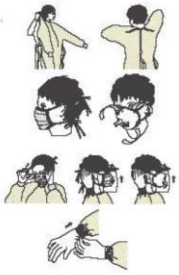
DONNING PPE

GOWN
- Fully cover torso from neck to knees, arms to end of wrist, and wrap around the back
- Fasten in back at neck and waist

MASK OR RESPIRATOR
- Secure ties or elastic band at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

GOGGLES/FACE SHIELD
- Put on face and adjust to fit

GLOVES
- Use non-sterile for isolation
- Select according to hand size
- Extend to cover wrist of isolation gown



SAFE WORK PRACTICES
- Keep hands away from face
- Work from clean to dirty
- Limit surfaces touched
- Change when torn or heavily contaminated
- Perform hand hygiene

Don't Defeat The Purpose Of Protection

The mask should:
- cover both the nose and the mouth

The mask should NOT be:
- worn under the chin or on top of the head
- worn as a necklace
- carried in your pocket for reuse

How often should I change my mask?

The CDC recommends changing your mask:

- between patients
- during patient treatment if the mask becomes wet

Center for Disease Controls. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5217a1.htm Accessed 8.8.11

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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Mask or Respirator *(removal)*

- **Front of mask/respirator is contaminated – DO NOT TOUCH!**
- **Grasp ONLY bottom then top ties/elastics and remove**
- **Discard in waste container**

CDC/HICPAC 2007 Guideline - Preventing Transmission of Infectious Agents in Health Care Settings

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- **Front of mask/respirator is contaminated – DO NOT TOUCH!**
- **Grasp ONLY bottom then top ties/elastics and remove**
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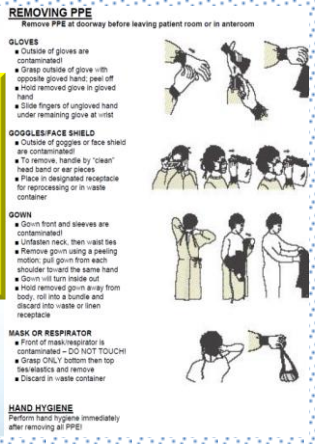
Hand Hygiene

- **Perform hand hygiene immediately after removing all PPE!**

CDC/HICPAC 2007 Guideline - Preventing Transmission of Infectious Agents in Health Care Settings



Check the Label: Is the Mask a Level 1, 2, or 3?

Key Points

☞ ASTM F2100 is the "Standard Specification for Performance of Materials Used in Medical Face Masks"

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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Check the Label: Is the Mask a Level 1, 2, or 3?

Key Points

- ASTM F2100 is the "Standard Specification for Performance of Materials Used in Medical Face Masks"
- ASTM F2100 was updated in 2011 to communicate the expected barrier performance level

Check the Label: Is the Mask a Level 1, 2, or 3?

Key Points

- Medical face masks tested under ASTM F2100-11 specifications are designated in 3 barrier performance levels:

Good >>>>>>>>> Better >>>>>>>>>> Best

NOTE: 3 BARRIER LEVELS recognized by this updated ASTM Standard

Check the Label: Is the Mask a Level 1, 2, or 3?

Key Points

- Look for the ASTM F2100-11 barrier level on the medical mask packaging

Check the Label: Is the Mask a Level 1, 2, or 3?
(… and What's the Difference?)

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Check the Label: Is the Mask a Level 1, 2, or 3?

Key Points

- Look for the ASTM F2100-11 barrier level on the medical mask packaging
- Use this information to assist with appropriate mask selection

Check the Label: Is the Mask a Level 1, 2, or 3?

Key Points

- Look for the ASTM F2100-11 barrier level on the medical mask packaging
- Use this information to assist with appropriate mask selection
- Establish and perform appropriate safety and health practices

CHECK THE LABEL:

Is the Mask a Level 1, 2, or 3
and … what's the difference?

Thank you!

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