



Indiana
Department
of
Health

Infection Prevention Press

June 2024

Measles

VPD Spotlight: Measles (Rubeola)

By Makayla Culbertson, Vaccine Preventable Disease (VPD) Epidemiologist

Measles basics:

Etiologic agent: Measles virus

Clinical description: Measles illness typically presents with an acute onset of fever, cough, coryza (runny nose), conjunctivitis (pink eye), and rash after a measles exposure. The clinical presentation of measles can be severe, and presents in two stages:

Prodromal: This stage lasts two-to-four days with a range of one-to-seven days. Patients first experience a prodromal fever that increases in a stepwise fashion (103°-105°). The patient will then experience a cough, coryza, and conjunctivitis. The final symptom to appear before rash onset is Koplik spots on the mucous membranes. These occur one-to-two days before rash onset and appear as blue-white spots on the buccal mucosa.

Rash: This stage lasts five-to-six days. A maculopapular rash usually begins on the face at the hairline, then then proceeds downward and then outward to the trunk and extremities. The lesions can be individually distinct, but some may run together. Initially, the lesions become white or paler with fingertip pressure, but after a few days, they do not blanch with pressure. The lesions peel off in scales in heavily involved areas. The rash fades in the same order in which it appears, from face to extremities.

Other symptoms and complications: Other symptoms of measles include anorexia and generalized lymphadenopathy. Complications include diarrhea, otitis media, pneumonia, encephalitis, subacute sclerosing panencephalitis, and death. Complications are most common among children younger than 5 and adults.

Incubation period: Eleven-to-12 days after exposure (range of seven-to-21 days).

Infectious period: Four days before to four days after rash onset.

Mode of transmission: Person-to-person via respiratory droplets and airborne spread. The virus may remain airborne in closed areas up to two hours after an infectious person has left the area.

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VPD Spotlight: Measles (Rubeola) continued...

Trends and recent outbreaks

Between Dec. 1, 2023 and May 17, 2024, the Centers for Disease Control and Prevention (CDC) was notified of 139 U.S. cases of measles, including 10 outbreaks (defined as three or more related cases). Most of these cases were among children and adolescents who had not received a measles-containing vaccine (MMR or MMRV), even if age eligible.

Reporting requirements

In Indiana, measles cases must be **reported immediately upon suspicion** to local and state health departments. Reporting can be done by calling 317-233-7125 or 317-233-1325 (after hours).

Prevention and control

Prevention and control measures include:

- Routine measles (MMR or MMRV) vaccination
- Airborne precautions for suspected cases in healthcare settings
- Isolation of infected persons for four days after rash onset
- In outbreaks, exclusions may be required for exposed persons without proper evidence of immunity
- Additional control measures may be needed in outbreak situations. Consult with IDOH

Resources:

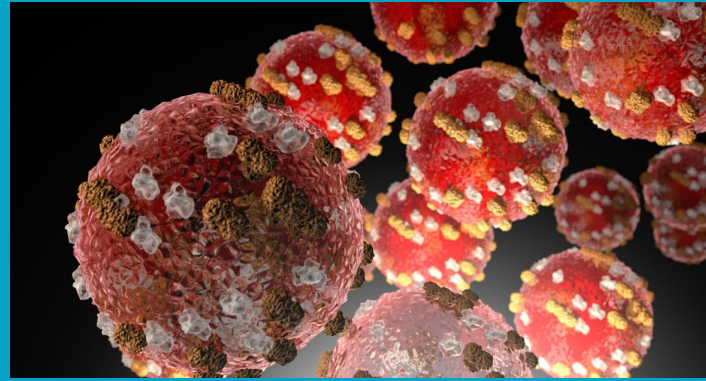
[IDOH Measles Page](#)
[CDC measles website](#)

Contact

For questions about measles, please contact:

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For questions regarding the MMR or MMRV vaccines, please contact IDOH Immunizations at (immunize@health.in.gov, or 1-800-701-0704



Child with maculopapular rash associated with measles.

If you have suggestions about what you would like to see in future editions of the IPP newsletter, email Bethany Lavender at BLavender@health.in.gov.

Wounds

Skin and Wounds

By Mary Enlow, Southern Region Infection Preventionist

A wound is any type of damage or breakage to the surface of one's skin (i.e., skin tears (ST), ulcers (arterial, venous stasis, diabetic), incontinence-associated dermatitis, and pressure injuries (PI)).

Wound evaluation

Type (i.e. acute, chronic)	Location on the body	Measurements (include undermining and tunneling)
Appearance (e.g., redness, swelling, or drainage)	Cause	Stage
Exudate (color and amount)	Exposure of bone, vessels, hardware, or subcutaneous fat	Assess surrounding skin tissue.
Wound margins (e.g., tunneling, rolled edges, undermining, and fibrotic changes).	Evaluate for warmth, pain, odor, purulence, delayed healing, or other signs of infection.	

Pressure injury classification



Stage I Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area.



Stage II Partial thickness loss of dermis presenting as a shallow open ulcer with a red, pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister.



Stage III Full thickness tissue loss. Subcutaneous fat may be visible, but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.



Stage IV Full thickness tissue loss with exposed bone, tendon, or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling.



Deep tissue injury Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.



Unstageable Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed.

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Skin and Wounds continued...

Pressure injury interventions/management/treatment Follow strict adherence to pressure-relief protocols		
Keep the skin clean and dry. <ul style="list-style-type: none"> • Provide good hygiene. • Manage moisture. • Protect from soiling (elimination incontinence) 	Risk assessments: <ul style="list-style-type: none"> • Complete the pressure ulcer risk assessment upon discovery of a pressure injury. • With any changes in mobility or medical conditions 	Turning bed-bound patients at least every two hours <ul style="list-style-type: none"> • Avoid friction and shear forces • Use pillows or wedges to keep the patient on their side • Place pillows between their legs and under their calves to help take pressure off their back, buttocks, knees, and heels.
Provide adequate padding	Maintain adequate nutrition (supplements)	Offloading pressure points <ul style="list-style-type: none"> • Floating heels
Make routine positional changes (lift instead of dragging)	Specialty beds to aid in decreasing pressure	Manage pain and discomfort
Follow facility policy and procedures	Ensure adequate treatment if an infection is present	Optimization of wheelchair seating/bedding (PT, OT)
Debride devitalized tissue to accelerate healing	Treatment of underlying disease	Improve nutritional status, assess nutritional status (dietary consult)

Avoid pathogen transmission during wound care by:

- Following strict adherence to hand hygiene practices including technique (refer to [WHO five moments of hand hygiene](#))
- Use of proper PPE following standard, [enhanced barrier precautions \(EBP\)](#), or transmission-based precautions (TBP). The correct type of precaution is determined by the organism(s) present, type of wound (acute vs. chronic), and setting
- Use of an EPA approved product to clean and disinfect reusable wound care equipment
- Proper storage and handling of wound care supplies, including medications

Personal protective equipment (PPE)

- Gloves should be worn during wound care procedures
- Gowns should be worn when wound care requires significant contact with the resident or their immediate environment, such as when turning or positioning a resident for wound care, or if the procedure could generate splashes or sprays (e.g., during irrigation).
- Face protection such as goggles and a facemask, or a face shield should be worn during wound care procedures that may generate splashes or aerosols such as irrigation, pulse lavage, and handling of equipment such as vacuum-assisted closure devices
- Additional PPE may be warranted if the patient/resident is on transmission-based precautions

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Skin and Wounds continued...

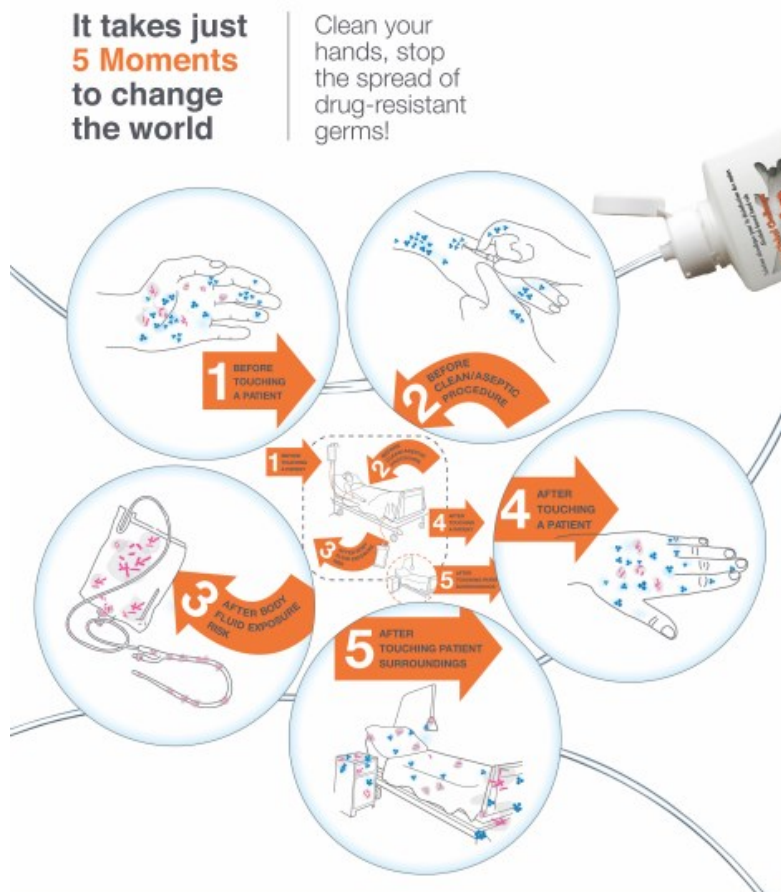
Wound care equipment and supplies



- Wound care supply cart should remain outside of resident care areas
- Multi-dose topical wound care medications, such as creams, sprays and ointments, should be dedicated to an individual patient/resident, whenever possible
- Any unused disposable supplies that enter the patient/resident's care area should remain dedicated to that patient/resident or be discarded
- If multi-dose medications are used for more than one resident, then the medications should be stored in a central area and should not enter the resident room
- Reusable wound care equipment should be cleaned and disinfected after each use
- Do not carry bandage scissors in pockets

Preparing your wound care field

- Disinfect your field (bedside table) with an EPA approved disinfectant while following manufacturer's contact/dry time
- Ensure there is a barrier in place to protect the wound
- Have access to ABHR to ensure proper hand hygiene
- Have a trash can near for disposal of dirty items, ensuring they are not placed onto clean field
- Clean dressing supplies (gauze, measure tape, or scissors) should be handled in a way to prevent cross contamination
- Remember the **clean to dirty** process and do not reach over clean supplies with dirty bandages or equipment
- Dispose of dressings per facility policy and procedure
- Ensure that unused supplies are not returned to the clean supply cart



 World Health Organization

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Skin and Wounds continued...

These areas are important to prevent cross-contamination of clean supplies and reiterates the importance of collecting all supplies prior to beginning wound care.

- Dedicate multi-dose wound care medications (e.g. ointments, creams) to a single resident whenever possible or a small amount of medication should be aliquoted into a clean container for single-resident use; medications should be stored properly stored in a centralized location
- Follow proper hand hygiene
- Gloves should be changed, and hand hygiene performed when moving from dirty to clean wound care activities (e.g. after removal of soiled dressings, before handling clean supplies)
- Maintain aseptic non-touch technique that prevents the transmission of microorganisms to the wound
- Clean gloves should not come directly in contact with the wound bed
- If the wound requires direct palpation, sterile gloves should be worn
- Sterile applicators should be used to apply medications
- Dressings should be handled in an aseptic manner
- Clean and disinfect surfaces in the patient/resident area that may have been contaminated during the wound care process
- Wound care supply carts should never enter the patient/resident's immediate care area



Auditing

- Observe wound care procedures from start to finish
- Note all deviations from best practices and areas for improvement
- Provide real time feedback when appropriate

IDOH Wound Care Observation Checklist for Infection Control [click here.](#)

Project Firstline Office Hours with UIndy's Center for Aging and Community

Join the University of Indianapolis's Center for Aging and Community (CAC) for Project Firstline Office Hours!

These occur from noon to 1 p.m. EDT every other Tuesday until the end of July. Click on the link below to register!

[Project Firstline: Infection Prevention Education for Frontline Healthcare Workers Information](#)

CAC

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& COMMUNITY

UNIVERSITY OF INDIANAPOLIS

IP Team Map

Infection Prevention Team Regions

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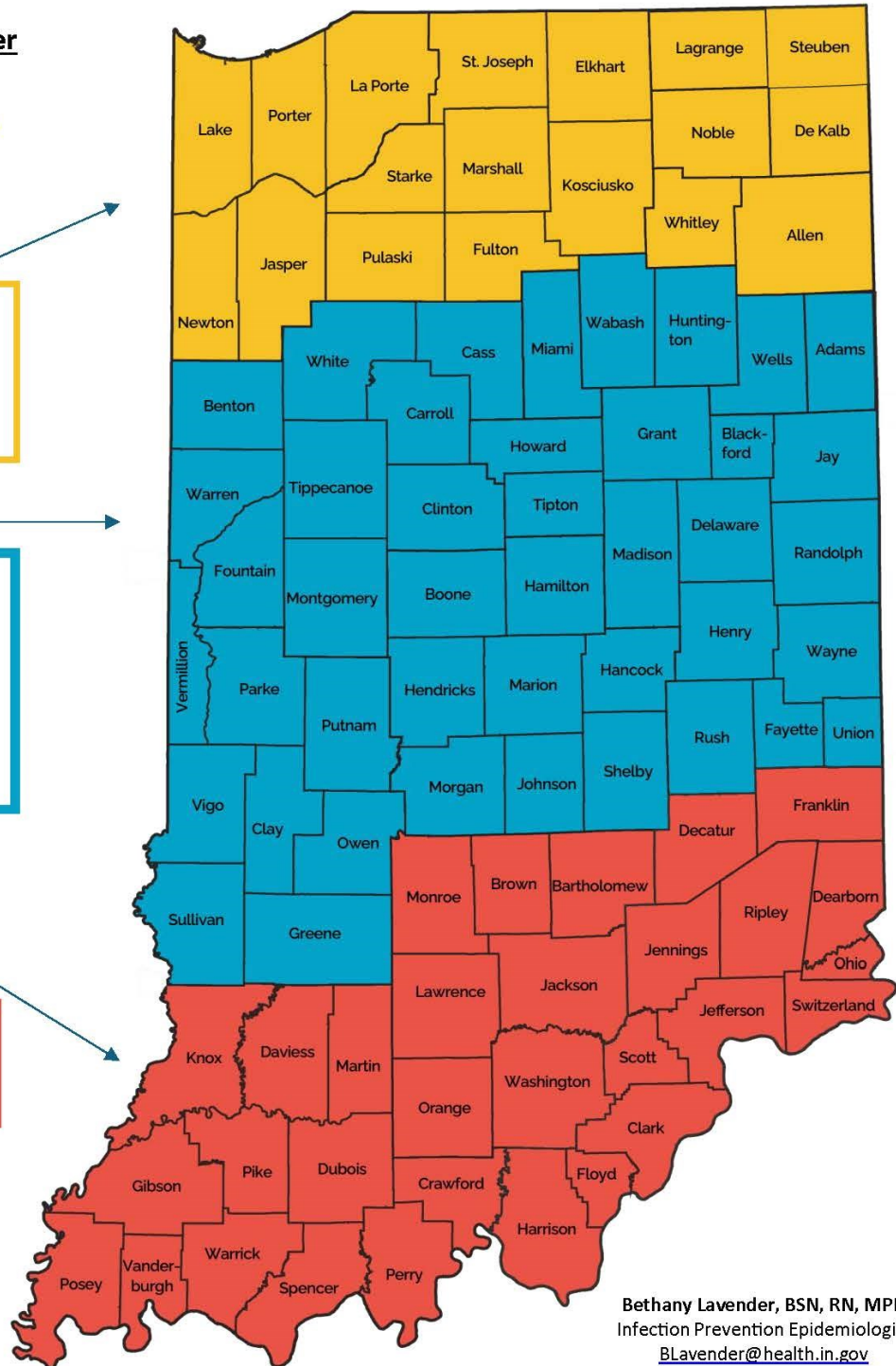
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Links and References

If you are viewing this newsletter online, you can open the [links](#) throughout by clicking on them. If you are viewing in printed form, the full URLs are below:

VPD: Measles (Rubeola)

1. IDOH measles page - <https://www.in.gov/health/erc/infectious-disease-epidemiology/diseases-and-conditions-resource-page/measles/>
2. CDC measles website - <https://www.cdc.gov/measles/index.html>
3. Makayla Culbertson - MCulbertson@health.in.gov
4. Tom Loftus - TLoftus@health.in.gov
5. Madison Jordan - MJordan@health.in.gov
6. IDOH Immunizations - immunize@isdh.in.gov
7. Photo 1 - <https://www.cdc.gov/measles/about/index.html>
8. Photo of rash - <https://www.cdc.gov/measles/signs-symptoms/photos-of-measles.html>

Wounds

1. Reference and stage 1-4 pressure ulcer photos - <https://www.ncbi.nlm.nih.gov/books/NBK553107/>
2. Reference - <https://www.ncbi.nlm.nih.gov/books/NBK482198/>
3. Reference - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5792240/>
4. Reference - <https://www.ncbi.nlm.nih.gov/books/NBK532897/>
5. Reference - <https://www.sepsis.org/sepsisand/pressure-ulcers-pressure-injuries/>
6. Reference - https://courses.cdc.train.org/Content_CDC_Long_Term_Care/Module10C_WoundCare_LTC/module_10c_wound_care_lesson_2_23_recommended_ipc_practices_during_wound_care.html
7. Reference - https://courses.cdc.train.org/Content_CDC_Long_Term_Care/Module10C_WoundCare_LTC/module_10c_wound_care_lesson_2_25_preventing_contamination_of_wound_care_supplies.html
8. Reference and deep tissue photo - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7950046/>
9. Reference & unstageable pressure ulcer photo - <https://www.woundsource.com/patientcondition/pressure-ulcers-unstageable>
10. Reference - <https://www.cdc.gov/infectioncontrol/pdf/projectfirstline/Micro-Learns-Draining-Wound-508.pdf>
11. WHO's five moments of hand hygiene - <https://www.who.int/publications/m/item/five-moments-for-hand-hygiene>
12. Enhanced barrier precautions (EBP) - <https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/faqs.html>
13. IDOH Wound Care Observation Checklist for Infection Control - <https://www.in.gov/health/idepd/files/ISDH-Wound-Care-Assessment-Tool.pdf>

UIndy's Project Firstline Office Hours

1. Office hours registration and information - <https://www.uindy.edu/cac/project-firstline#hours>
2. Photo/UIndy CAC logo - <https://news.uindy.edu/2023/05/19/center-for-aging-community-fellows-for-2023-2025-named/>

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