

IDSA 2025 Guidelines on the use of vaccines for the prevention of seasonal COVID-19, Influenza, and RSV infections in immunocompromised patients

Supplemental material for RSV section

Search Strategy

Supplemental Table 1. IDSA Supplemental Search

Supplemental Table 2. Study Characteristics

Supplemental Figure 1. Forest plot for effectiveness of RSV vaccination against Influenza-associated hospitalization

Supplemental Figure 2. Forest plot comparing risk of serious adverse events between RSV vaccination and placebo

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IDSA Conflict of Interest

References

Search Strategy

To establish the basis for recommendations, the panel reviewed the best available evidence published in the 18–24 months since the evidence base for the last CDC recommendations for each vaccine (search start dates were June 2024 for COVID-19; August 2024 for RSV; and August 2023 for influenza and search end date was July 31, 2025). A rapid systematic literature review conducted by the Vaccine Integrity Project provided evidence for vaccine effectiveness and serious adverse events [1], and a supplemental search within the same search limits provided evidence for exacerbations of immunocompromising or autoimmune conditions (see Supplemental Table 1).

Supplemental Table 1. IDSA Supplemental Search

A supplemental search was conducted for the additional outcome of ‘exacerbations of immunocompromising or autoimmune conditions.’ Searches were run individually for each specific population in PubMed. The timeframe for the searches was informed by the timeframe for the VIP searches. Title/abstract and full-text screening were done by a single reviewer using Excel. Staff completed a final review of included studies.

Inclusion Criteria: 1) reports data on exacerbations of immunocompromising or autoimmune conditions resulting from vaccination, 2) studies at least one U.S.-licensed or emergency-authorized vaccine, 3) has a sample size ≥ 10

Exclusion Criteria: 1) studies on infection-based exacerbations, treating exacerbations, vaccine effectiveness, epidemiology, characterization of immune response, impact of dosing, comparison of vaccines, reports for other AEs (e.g., myocarditis/pericarditis), or exacerbations of non-IC conditions (e.g., alopecia)

PubMed Specific Populations Search Strategy

#	Descriptor	String
1	Vaccinations (flu, RSV, COVID-19	"covid 19 vaccines"[MeSH Major Topic] OR "Comirnaty"[Title/Abstract] OR "SPIKEVAX"[Title/Abstract] OR "MNEXSPIKE"[Title/Abstract] OR "Vaxzevria"[Title/Abstract] OR "Nuvaxovid"[Title/Abstract] OR "Covovax"[Title/Abstract] OR "NVX-CoV2373"[Title/Abstract] OR "COVID-19 vaccine"[Title/Abstract:~4] OR "covid 19 vaccines"[Title/Abstract:~4] OR "COVID-19 vaccination"[Title/Abstract:~4] OR "COVID-19 vaccinations"[Title/Abstract:~4] OR "COVID-19 vaccinate"[Title/Abstract:~4] OR "COVID-19 vaccinated"[Title/Abstract:~4] OR "COVID-19 vaccinating"[Title/Abstract:~4] OR "COVID-19 immunization"[Title/Abstract:~4] OR "COVID-19

		immunizations"[Title/Abstract:~4] OR "COVID-19 immunize"[Title/Abstract:~4] OR "COVID-19 immunized"[Title/Abstract:~4] OR "COVID-19 immunizing"[Title/Abstract:~4] OR "COVID-19 inoculation"[Title/Abstract:~4] OR "COVID-19 inoculations"[Title/Abstract:~4] OR "COVID-19 inoculate"[Title/Abstract:~4] OR "COVID-19 inoculated"[Title/Abstract:~4] OR "COVID-19 inoculating"[Title/Abstract:~4] OR "SARS-CoV-2 vaccine"[Title/Abstract:~4] OR "SARS-CoV-2 vaccines"[Title/Abstract:~4] OR "SARS-CoV-2 vaccination"[Title/Abstract:~4] OR "SARS-CoV-2 vaccinations"[Title/Abstract:~4] OR "SARS-CoV-2 vaccinate"[Title/Abstract:~4] OR "SARS-CoV-2 vaccinated"[Title/Abstract:~4] OR "SARS-CoV-2 vaccinating"[Title/Abstract:~4] OR "SARS-CoV-2 immunization"[Title/Abstract:~4] OR "SARS-CoV-2 immunizations"[Title/Abstract:~4] OR "SARS-CoV-2 immunize"[Title/Abstract:~4] OR "SARS-CoV-2 immunized"[Title/Abstract:~4] OR "SARS-CoV-2 immunizing"[Title/Abstract:~4] OR "SARS-CoV-2 inoculation"[Title/Abstract:~4] OR "SARS-CoV-2 inoculations"[Title/Abstract:~4] OR "SARS-CoV-2 inoculate"[Title/Abstract:~4] OR "SARS-CoV-2 inoculated"[Title/Abstract:~4] OR "SARS-CoV-2 inoculating"[Title/Abstract:~4] OR "Respiratory Syncytial Virus Vaccines"[MeSH Major Topic] OR "Abrysvo"[Title/Abstract] OR "Arexvy"[Title/Abstract] OR "MRESVIA"[Title/Abstract] OR "Beyfortus"[Title/Abstract] OR "nirsevimab"[Title/Abstract] OR "ENFLONIA"[Title/Abstract] OR "clesrovimab"[Title/Abstract] OR "Synagis"[Title/Abstract] OR "palivizumab"[Title/Abstract] OR "RSV vaccine"[Title/Abstract:~4] OR "RSV vaccines"[Title/Abstract:~4] OR "RSV vaccination"[Title/Abstract:~4] OR "RSV vaccinations"[Title/Abstract:~4] OR "RSV vaccinate"[Title/Abstract:~4] OR "RSV vaccinated"[Title/Abstract:~4] OR "RSV vaccinating"[Title/Abstract:~4] OR "RSV immunization"[Title/Abstract:~4] OR "RSV immunizations"[Title/Abstract:~4] OR "RSV immunize"[Title/Abstract:~4] OR "RSV immunized"[Title/Abstract:~4] OR "RSV immunizing"[Title/Abstract:~4] OR "RSV inoculation"[Title/Abstract:~4] OR "RSV inoculations"[Title/Abstract:~4] OR "RSV inoculate"[Title/Abstract:~4] OR "RSV inoculated"[Title/Abstract:~4] OR "RSV inoculating"[Title/Abstract:~4] OR "respiratory syncytial virus vaccine"[Title/Abstract:~4] OR "Respiratory Syncytial Virus Vaccines"[Title/Abstract:~4] OR "respiratory syncytial virus vaccination"[Title/Abstract:~4] OR "respiratory syncytial virus vaccinations"[Title/Abstract:~4] OR "respiratory syncytial virus vaccinate"[Title/Abstract:~4] OR "respiratory syncytial virus vaccinated"[Title/Abstract:~4] OR "respiratory syncytial virus vaccinating"[Title/Abstract:~4] OR "respiratory syncytial virus immunization"[Title/Abstract:~4] OR "respiratory syncytial virus immunizations"[Title/Abstract:~4] OR "respiratory syncytial virus immunize"[Title/Abstract:~4] OR "respiratory syncytial virus immunized"[Title/Abstract:~4] OR "respiratory syncytial virus immunizing"[Title/Abstract:~4] OR "respiratory syncytial virus inoculation"[Title/Abstract:~4] OR "respiratory syncytial virus inoculations"[Title/Abstract:~4] OR "respiratory syncytial virus inoculate"[Title/Abstract:~4] OR "respiratory syncytial virus inoculated"[Title/Abstract:~4] OR "respiratory syncytial virus inoculating"[Title/Abstract:~4] OR "Influenza Vaccines"[MeSH Major Topic] OR "Fluzone"[Title/Abstract] OR "Afluria"[Title/Abstract] OR "Fluad"[Title/Abstract] OR "Flucelvax"[Title/Abstract] OR
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		"FluMist"[Title/Abstract] OR "Flublok"[Title/Abstract] OR "Fluarix"[Title/Abstract] OR "Flulaval"[Title/Abstract] OR "Fluvirin"[Title/Abstract] OR "Agriflu"[Title/Abstract] OR "Arepanrix"[Title/Abstract] OR "Audenz"[Title/Abstract] OR "Afluria"[Title/Abstract] OR "flu vaccine"[Title/Abstract:~4] OR "flu vaccines"[Title/Abstract:~4] OR "flu vaccination"[Title/Abstract:~4] OR "flu vaccinations"[Title/Abstract:~4] OR "flu vaccinate"[Title/Abstract:~4] OR "flu vaccinated"[Title/Abstract:~4] OR "flu vaccinating"[Title/Abstract:~4] OR "flu immunization"[Title/Abstract:~4] OR "flu immunizations"[Title/Abstract:~4] OR "flu immunize"[Title/Abstract:~4] OR "flu immunized"[Title/Abstract:~4] OR "flu immunizing"[Title/Abstract:~4] OR "flu inoculation"[Title/Abstract:~4] OR "flu inoculations"[Title/Abstract:~4] OR "flu inoculate"[Title/Abstract:~4] OR "flu inoculated"[Title/Abstract:~4] OR "flu inoculating"[Title/Abstract:~4] OR "influenza vaccine"[Title/Abstract:~4] OR "Influenza Vaccines"[Title/Abstract:~4] OR "influenza vaccination"[Title/Abstract:~4] OR "influenza vaccinations"[Title/Abstract:~4] OR "influenza vaccinate"[Title/Abstract:~4] OR "influenza vaccinated"[Title/Abstract:~4] OR "influenza vaccinating"[Title/Abstract:~4] OR "influenza immunization"[Title/Abstract:~4] OR "influenza immunizations"[Title/Abstract:~4] OR "influenza immunize"[Title/Abstract:~4] OR "influenza immunized"[Title/Abstract:~4] OR "influenza immunizing"[Title/Abstract:~4] OR "influenza inoculation"[Title/Abstract:~4] OR "influenza inoculations"[Title/Abstract:~4] OR "influenza inoculate"[Title/Abstract:~4] OR "influenza inoculated"[Title/Abstract:~4] OR "influenza inoculating"[Title/Abstract:~4]
2	Specific population(s)	See appendix 1
3	Date filter	2023/08/26:2025/09/22[pdat]
4	Language filter	English[lang]
5	Exclusion by publication type & additional exclusion terms (from VIP search with addition of guidelines or “narrative review” in title)	"case reports"[Publication Type] OR "clinical trial protocol"[Publication Type] OR "clinical trial, veterinary"[Publication Type] OR "Comment"[Publication Type] OR "Editorial"[Publication Type] OR "Guideline"[Publication Type] OR "letter"[Publication Type] OR "practice guideline"[Publication Type] OR "Published Erratum"[Publication Type] OR "modeling"[Title] OR "modelling"[Title] OR "mathematical model"[Title/Abstract] OR "simulation model"[Title/Abstract] OR "simulation"[Title] OR "cost-effectiveness"[Title] OR "costing"[Title] OR "cost analysis"[Title/Abstract] OR "economic evaluation"[Title/Abstract] OR "cost utility"[Title/Abstract] OR "microsimulation"[Title/Abstract] OR "markov model"[Title/Abstract] OR "agent-based model"[Title/Abstract] OR "macaque"[Title] OR "primate"[Title] OR "case report"[Title] OR "mouse model"[Title/Abstract] OR "murine"[Title/Abstract] OR "in vitro"[Title] OR "cell line"[Title/Abstract] OR "protein structure"[Title/Abstract] OR "molecular docking"[Title/Abstract] OR "molecular dynamics"[Title/Abstract] OR "animal model"[Title/Abstract] OR "rodent"[Title/Abstract] OR

		"bioinformatics"[Title/Abstract] OR "receptor binding"[Title/Abstract] OR "viral genome"[Title/Abstract] OR Guidelines[TI] OR "Narrative review"[TI]
Search		1 AND 2 AND 3 AND 4 NOT 5

Appendix 1. Specific population search strings

a. Solid Organ Transplant

"Tissue Transplantation"[MeSH Terms] OR "Organ Transplantation"[MeSH Terms] OR ("transplant"[Title/Abstract] AND ("kidney"[Title/Abstract] OR "liver"[Title/Abstract] OR "heart"[Title/Abstract] OR "lung"[Title/Abstract] OR "intestine"[Title/Abstract] OR "pancreas"[Title/Abstract] OR "multivisceral"[Title/Abstract] OR "organ"[Title/Abstract] OR "tissue"[Title/Abstract]))

b. HCT/CAR-T & JAK-STAT inhibitors

("Hematopoietic Stem Cell Transplantation"[MeSH Terms] OR "Bone Marrow Transplantation"[MeSH Terms] OR "immunotherapy, adoptive"[MeSH Terms] OR ("bone marrow transplant"[Title/Abstract] OR "bone marrow transplants"[Title/Abstract] OR "Bone Marrow Transplantation"[Title/Abstract] OR "bone marrow transplantations"[Title/Abstract] OR "stem cell transplant"[Title/Abstract] OR "stem cell transplants"[Title/Abstract] OR "stem cell transplantation"[Title/Abstract] OR "stem cell transplantations"[Title/Abstract] OR "car t"[Title/Abstract] OR "car t"[Title/Abstract] OR "cord blood transplant"[Title/Abstract] OR "cord blood transplants"[Title/Abstract] OR "cord blood transplantation"[Title/Abstract] OR "cord blood transplantations"[Title/Abstract] OR "Chimeric Antigen Receptor Therapy"[Title/Abstract] OR "Chimeric Antigen Receptor Therapies"[Title/Abstract])) AND ("janus kinase inhibitors"[MeSH Terms] OR "janus kinase inhibitors"[Pharmacological Action] OR ("Janus kinase-signal transducers and activators of transcription"[Title/Abstract] OR "janus kinase inhibitors"[Title/Abstract:~4] OR "Janus kinase inhibitor"[Title/Abstract:~4] OR "JAK inhibitor"[Title/Abstract:~4] OR "JAK inhibitors"[Title/Abstract:~4] OR "ruxolitinib"[Title/Abstract] OR "tofacitinib"[Title/Abstract] OR "baricitinib"[Title/Abstract] OR "itacitinib"[Title/Abstract] OR "Upadacitinib"[Title/Abstract] OR "filgotinib"[Title/Abstract] OR "abrocitinib"[Title/Abstract] OR "oclocitinib"[Title/Abstract] OR "fedratinib"[Title/Abstract] OR "pacritinib"[Title/Abstract] OR "decernotinib"[Title/Abstract] OR "ritilecitinib"[Title/Abstract] OR "deucravacitinib"[Title/Abstract] OR "delgocitinib"[Title/Abstract] OR "peficitinib"[Title/Abstract]))

c. Hematologic Malignancies

"Leukemia"[MeSH Terms] OR "Lymphoma"[MeSH Terms] OR "Multiple Myeloma"[MeSH Terms] OR "leukemia"[Title/Abstract] OR "lymphoma"[Title/Abstract] OR "myeloma"[Title/Abstract] OR "hematologic malignancy"[Title/Abstract] OR "hematologic malignancies"[Title/Abstract] OR "hematologic malignant"[Title/Abstract:~4]

d. Solid Tumor Chemotherapy

"neoplasms/drug therapy"[MeSH Terms] OR ("solid tumor"[Title/Abstract] OR "Glioblastoma"[Title/Abstract] OR "Astrocytoma"[Title/Abstract] OR "Oligodendroglioma"[Title/Abstract] OR "Meningioma"[Title/Abstract] OR "Medulloepithelioma"[Title/Abstract] OR "Craniopharyngioma"[Title/Abstract] OR "oral cavity cancer"[Title/Abstract] OR "pharyngeal cancer"[Title/Abstract] OR "laryngeal cancer"[Title/Abstract] OR "salivary gland tumor"[Title/Abstract] OR "thyroid cancer"[Title/Abstract] OR "parathyroid cancer"[Title/Abstract] OR "lung cancer"[Title/Abstract] OR "mesothelioma"[Title/Abstract] OR "thymoma"[Title/Abstract] OR "esophageal cancer"[Title/Abstract] OR "gastric cancer"[Title/Abstract] OR "stomach

cancer"[Title/Abstract] OR "colorectal cancer"[Title/Abstract] OR "liver cancer"[Title/Abstract] OR "hepatocellular carcinoma"[Title/Abstract] OR "pancreatic cancer"[Title/Abstract] OR "gallbladder cancer"[Title/Abstract] OR "bile duct cancer"[Title/Abstract] OR "cholangiocarcinoma"[Title/Abstract] OR "kidney cancer"[Title/Abstract] OR "renal cell carcinoma"[Title/Abstract] OR "bladder cancer"[Title/Abstract] OR "prostate cancer"[Title/Abstract] OR "testicular cancer"[Title/Abstract] OR "penile cancer"[Title/Abstract] OR "breast cancer"[Title/Abstract] OR "ovarian cancer"[Title/Abstract] OR "endometrial cancer"[Title/Abstract] OR "cervical cancer"[Title/Abstract] OR "vulvar cancer"[Title/Abstract] OR "vaginal cancer"[Title/Abstract] OR "osteosarcoma"[Title/Abstract] OR "chondrosarcoma"[Title/Abstract] OR "Ewing sarcoma"[Title/Abstract] OR "soft tissue sarcomas"[Title/Abstract] OR "melanoma"[Title/Abstract] OR "basal cell carcinoma"[Title/Abstract] OR "squamous cell carcinoma"[Title/Abstract] OR "Merkel cell carcinoma"[Title/Abstract] OR "adrenal cancer"[Title/Abstract] OR "pituitary tumor*"[Title/Abstract] OR "neuroendocrine tumor*"[Title/Abstract]) AND ("Antineoplastic Agents"[MeSH Terms] OR "chemotherap*"[Title/Abstract] OR "anticancer therapy"[Title/Abstract] OR "anticancer therapies"[Title/Abstract] OR "antineoplastic agent"[Title/Abstract] OR "Antineoplastic Agents"[Title/Abstract] OR "anticancer drug"[Title/Abstract] OR "anticancer drugs"[Title/Abstract] OR "Altretamine"[Title/Abstract] OR "Bendamustine"[Title/Abstract] OR "Busulfan"[Title/Abstract] OR "Carmustine"[Title/Abstract] OR "Chlorambucil"[Title/Abstract] OR "Cyclophosphamide"[Title/Abstract] OR "Dacarbazine"[Title/Abstract] OR "Ifosfamide"[Title/Abstract] OR "Lomustine"[Title/Abstract] OR "Lurbinectedin"[Title/Abstract] OR "Mechlorethamine"[Title/Abstract] OR "Melphalan"[Title/Abstract] OR "Procarbazine"[Title/Abstract] OR "Streptozocin"[Title/Abstract] OR "Temozolomide"[Title/Abstract] OR "Thiotepa"[Title/Abstract] OR "Trabectedin"[Title/Abstract] OR "Methotrexate"[Title/Abstract] OR "Pemetrexed"[Title/Abstract] OR "Pralatrexate"[Title/Abstract] OR "Trimetrexate"[Title/Abstract] OR "Azathioprine"[Title/Abstract] OR "Cladribine"[Title/Abstract] OR "Fludarabine"[Title/Abstract] OR "Mercaptopurine"[Title/Abstract] OR "Thioguanine"[Title/Abstract] OR "Azacitidine"[Title/Abstract] OR "Capecitabine"[Title/Abstract] OR "Cytarabine"[Title/Abstract] OR "Decitabine"[Title/Abstract] OR "Floxuridine"[Title/Abstract] OR "Fluorouracil"[Title/Abstract] OR "Gemcitabine"[Title/Abstract] OR "Trifluridine"[Title/Abstract] OR "Tipiracil"[Title/Abstract] OR "Aldesleukin"[Title/Abstract] OR "denileukin diftitox"[Title/Abstract] OR "Interferon Gamma"[Title/Abstract] OR "Belinostat"[Title/Abstract] OR "Panobinostat"[Title/Abstract] OR "Romidepsin"[Title/Abstract] OR "Vorinostat"[Title/Abstract] OR "Abiraterone"[Title/Abstract] OR "Apalutamide"[Title/Abstract] OR "Bicalutamide"[Title/Abstract] OR "Cyproterone"[Title/Abstract] OR "Enzalutamide"[Title/Abstract] OR "Flutamide"[Title/Abstract] OR "Nilutamide"[Title/Abstract] OR "Anastrozole"[Title/Abstract] OR "Exemestane"[Title/Abstract] OR "Fulvestrant"[Title/Abstract] OR "Letrozole"[Title/Abstract] OR "Raloxifene"[Title/Abstract] OR "Tamoxifen"[Title/Abstract] OR "Toremifene"[Title/Abstract] OR "Degarelix"[Title/Abstract] OR "Goserelin"[Title/Abstract] OR "Histrelin"[Title/Abstract] OR "Leuprolide"[Title/Abstract] OR "Relugolix"[Title/Abstract] OR "Triptorelin"[Title/Abstract] OR "Lanreotide"[Title/Abstract] OR "Octreotide"[Title/Abstract] OR "Pasireotide"[Title/Abstract] OR "Carboplatin"[Title/Abstract] OR "Cisplatin"[Title/Abstract] OR "Oxaliplatin"[Title/Abstract] OR "Alemtuzumab"[Title/Abstract] OR "Amivantamab"[Title/Abstract] OR "Atezolizumab"[Title/Abstract] OR "Avelumab"[Title/Abstract] OR "Belantamab"[Title/Abstract] OR "Bevacizumab"[Title/Abstract] OR "Blinatumomab"[Title/Abstract] OR "Brentuximab"[Title/Abstract] OR "Cemiplimab"[Title/Abstract] OR "Cetuximab"[Title/Abstract] OR "Daratumumab"[Title/Abstract] OR "Dinutuximab"[Title/Abstract] OR "Dostarlimab"[Title/Abstract] OR "Durvalumab"[Title/Abstract] OR "Elotuzumab"[Title/Abstract] OR "Enfortumab"[Title/Abstract] OR "Gemtuzumab"[Title/Abstract] OR "inotuzumab ozogamicin"[Title/Abstract] OR "Ipilimumab"[Title/Abstract] OR "Margetuximab"[Title/Abstract] OR "Mogamulizumab"[Title/Abstract] OR "moxetumomab pasudotox"[Title/Abstract] OR "Naxitamab"[Title/Abstract] OR

"Necitumumab"[Title/Abstract] OR "Nivolumab"[Title/Abstract] OR "Ofatumumab"[Title/Abstract] OR "Olaratumab"[Title/Abstract] OR "Panitumumab"[Title/Abstract] OR "Pembrolizumab"[Title/Abstract] OR "Pertuzumab"[Title/Abstract] OR "polatuzumab vedotin"[Title/Abstract] OR "Ramucirumab"[Title/Abstract] OR "Rituximab"[Title/Abstract] OR "sacituzumab govitecan"[Title/Abstract] OR "Tafasitamab"[Title/Abstract] OR "Teclistamab"[Title/Abstract] OR "Tisotumab"[Title/Abstract] OR "Vedotin"[Title/Abstract] OR "Tositumomab"[Title/Abstract] OR "Trastuzumab"[Title/Abstract] OR "trastuzumab deruxtecam"[Title/Abstract] OR "trastuzumab emtansine"[Title/Abstract] OR "Tremelimumab"[Title/Abstract] OR "Abemaciclib"[Title/Abstract] OR "Acalabrutinib"[Title/Abstract] OR "Adagrasib"[Title/Abstract] OR "Afatinib"[Title/Abstract] OR "Alectinib"[Title/Abstract] OR "Alpelisib"[Title/Abstract] OR "Asciminib"[Title/Abstract] OR "Axitinib"[Title/Abstract] OR "Binimetinib"[Title/Abstract] OR "Bortezomib"[Title/Abstract] OR "Bosutinib"[Title/Abstract] OR "Brigatinib"[Title/Abstract] OR "Cabozantinib"[Title/Abstract] OR "Capivasertib"[Title/Abstract] OR "Capmatinib"[Title/Abstract] OR "Carfilzomib"[Title/Abstract] OR "Ceritinib"[Title/Abstract] OR "Cobimetinib"[Title/Abstract] OR "Copanlisib"[Title/Abstract] OR "Crizotinib"[Title/Abstract] OR "Dabrafenib"[Title/Abstract] OR "Dacomitinib"[Title/Abstract] OR "Dasatinib"[Title/Abstract] OR "Duvelisib"[Title/Abstract] OR "Enasidenib"[Title/Abstract] OR "Encorafenib"[Title/Abstract] OR "Emsactinib"[Title/Abstract] OR "Entrectinib"[Title/Abstract] OR "Erdafitinib"[Title/Abstract] OR "Erlotinib"[Title/Abstract] OR "Fedratinib"[Title/Abstract] OR "Fruquintinib"[Title/Abstract] OR "Futibatinib"[Title/Abstract] OR "Gefitinib"[Title/Abstract] OR "Gilteritinib"[Title/Abstract] OR "Glasdegib"[Title/Abstract] OR "Ibrutinib"[Title/Abstract] OR "Idelalisib"[Title/Abstract] OR "Imatinib"[Title/Abstract] OR "Infigratinib"[Title/Abstract] OR "Inavolisib"[Title/Abstract] OR "Ivosidenib"[Title/Abstract] OR "Ixazomib"[Title/Abstract] OR "Lapatinib"[Title/Abstract] OR "Larotrectinib"[Title/Abstract] OR "Lazertinib"[Title/Abstract] OR "Lenvatinib"[Title/Abstract] OR "Lorlatinib"[Title/Abstract] OR "Midostaurin"[Title/Abstract] OR "Mobocertinib"[Title/Abstract] OR "Momelotinib"[Title/Abstract] OR "Neratinib"[Title/Abstract] OR "Nilotinib"[Title/Abstract] OR "Niraparib"[Title/Abstract] OR "Olaparib"[Title/Abstract] OR "Olutasidenib"[Title/Abstract] OR "Osimertinib"[Title/Abstract] OR "Pacritinib"[Title/Abstract] OR "Palbociclib"[Title/Abstract] OR "Pazopanib"[Title/Abstract] OR "Pemigatinib"[Title/Abstract] OR "Pexidartinib"[Title/Abstract] OR "Pirtobrutinib"[Title/Abstract] OR "Ponatinib"[Title/Abstract] OR "Quizartinib"[Title/Abstract] OR "Regorafenib"[Title/Abstract] OR "Repotrectinib"[Title/Abstract] OR "Revumenib"[Title/Abstract] OR "Ribociclib"[Title/Abstract] OR "Ripretinib"[Title/Abstract] OR "Rucaparib"[Title/Abstract] OR "Ruxolitinib"[Title/Abstract] OR "Selumetinib"[Title/Abstract] OR "Sonidegib"[Title/Abstract] OR "Sorafenib"[Title/Abstract] OR "Sunitinib"[Title/Abstract] OR "Talazoparib"[Title/Abstract] OR "Tivozanib"[Title/Abstract] OR "Tovorafenib"[Title/Abstract] OR "Trametinib"[Title/Abstract] OR "Trilaciclib"[Title/Abstract] OR "Umbralisib"[Title/Abstract] OR "Vandetanib"[Title/Abstract] OR "Vemurafenib"[Title/Abstract] OR "Vismodegib"[Title/Abstract] OR "Zanubrutinib"[Title/Abstract] OR "Cabazitaxel"[Title/Abstract] OR "Docetaxel"[Title/Abstract] OR "Paclitaxel"[Title/Abstract] OR "Etoposide"[Title/Abstract] OR "Irinotecan"[Title/Abstract] OR "Teniposide"[Title/Abstract] OR "Topotecan"[Title/Abstract] OR "Vinblastine"[Title/Abstract] OR "Vincristine"[Title/Abstract] OR "Vinorelbine"[Title/Abstract] OR "Asparaginase"[Title/Abstract] OR "Pegaspargase"[Title/Abstract] OR "Belzutifan"[Title/Abstract] OR "Bexarotene"[Title/Abstract] OR "Cedazuridine"[Title/Abstract] OR "Eribulin"[Title/Abstract] OR "Everolimus"[Title/Abstract] OR "Hydroxyurea"[Title/Abstract] OR "Ixabepilone"[Title/Abstract] OR "Lenalidomide"[Title/Abstract] OR "Mitotane"[Title/Abstract] OR "Omacetaxine"[Title/Abstract] OR "Pomalidomide"[Title/Abstract] OR "Selinexor"[Title/Abstract] OR "Tagraxofusp"[Title/Abstract] OR "Tazemetostat"[Title/Abstract] OR "Tebentafusp"[Title/Abstract] OR "Telotristat"[Title/Abstract] OR "Temsilolimus"[Title/Abstract] OR "Thalidomide"[Title/Abstract] OR "Venetoclax"[Title/Abstract]))

e. Primary Immunodeficiency

"Primary Immunodeficiency Diseases"[MeSH Terms] OR "primary immunodeficiencies"[Title/Abstract] OR "primary immunodeficiency"[Title/Abstract] OR "primary immune disorders"[Title/Abstract] OR "primary immune disorder"[Title/Abstract] OR "primary immune disease"[Title/Abstract] OR "primary immune diseases"[Title/Abstract] OR "Ataxia Telangiectasia"[Title/Abstract] OR "Bloom Syndrome"[Title/Abstract] OR "Chediak-Higashi Syndrome"[Title/Abstract] OR "Hereditary Complement Deficiency Diseases"[Title/Abstract] OR "Hereditary Angioedemas"[Title/Abstract] OR "Hyper-IgM Immunodeficiency Syndrome"[Title/Abstract] OR "Job Syndrome"[Title/Abstract] OR "Leukocyte-Adhesion Deficiency Syndrome"[Title/Abstract] OR "Severe Combined Immunodeficiency"[Title/Abstract] OR "X-Linked Combined Immunodeficiency Diseases"[Title/Abstract] OR "Wiskott-Aldrich Syndrome"[Title/Abstract] OR "inborn errors of immunity"[Title/Abstract:~3]

f. Autoimmune on Immunosuppressants/Biologics

"autoimmune diseases/drug therapy"[MeSH Terms] OR ("autoimmune disease"[Title/Abstract] OR "autoimmune diseases"[Title/Abstract] OR "Autoimmune Polyendocrinopathies"[Title/Abstract] OR "autoimmune diabetes"[Title/Abstract] OR "Autoimmune hepatitis"[Title/Abstract] OR "Addison Disease"[Title/Abstract] OR "Anti-Glomerular Basement Membrane Disease"[Title/Abstract] OR "Anti-Neutrophil Cytoplasmic Antibody-Associated Vasculitis"[Title/Abstract] OR "Churg-Strauss Syndrome"[Title/Abstract] OR "Granulomatosis with Polyangiitis"[Title/Abstract] OR "Microscopic Polyangiitis"[Title/Abstract] OR "Antiphospholipid Syndrome"[Title/Abstract] OR "Juvenile Arthritis"[Title/Abstract] OR "Rheumatoid Arthritis"[Title/Abstract] OR "Felty Syndrome"[Title/Abstract] OR "Rheumatoid Vasculitis"[Title/Abstract] OR "Sjogren's Syndrome"[Title/Abstract] OR "Still's Disease"[Title/Abstract] OR "Anti-N-Methyl-D-Aspartate Receptor Encephalitis"[Title/Abstract] OR "Myasthenia Gravis"[Title/Abstract] OR "Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease"[Title/Abstract] OR "Polyradiculoneuropathy"[Title/Abstract] OR "Stiff-Person Syndrome"[Title/Abstract] OR "Uveomeningoencephalitic Syndrome"[Title/Abstract] OR "Autoimmune Hypophysitis"[Title/Abstract] OR "Autoimmune Lymphoproliferative Syndrome"[Title/Abstract] OR "Autoimmune Pancreatitis"[Title/Abstract] OR "Birdshot Chorioretinopathy"[Title/Abstract] OR "Dermatitis Herpetiformis"[Title/Abstract] OR "Glomerulonephritis"[Title/Abstract] OR "Graves Disease"[Title/Abstract] OR "Graves Ophthalmopathy"[Title/Abstract] OR "Immunoglobulin G4-Related Disease"[Title/Abstract] OR "Linear IgA Bullous Dermatitis"[Title/Abstract] OR "Lupus"[Title/Abstract] OR "Sympathetic Ophthalmia"[Title/Abstract] OR "Bullous Pemphigoid"[Title/Abstract] OR "Pemphigus"[Title/Abstract] OR "Thrombocytopenic Purpura"[Title/Abstract] OR "Autoimmune Thyroiditis"[Title/Abstract] OR "Hashimoto Disease"[Title/Abstract] OR "Postpartum Thyroiditis"[Title/Abstract] OR "Undifferentiated Connective Tissue Diseases"[Title/Abstract] OR "Multiple sclerosis"[Title/Abstract] OR "Diffuse cerebral sclerosis of schilder"[Title/Abstract] OR "Encephalomyelitis"[Title/Abstract] OR "Leukoencephalitis"[Title/Abstract] OR "Transverse myelitis"[Title/Abstract] OR "Neuromyelitis optica"[Title/Abstract] OR "Autoimmune neuritis"[Title/Abstract] OR "Giant cell arteritis"[Title/Abstract] OR "psoriasis"[Title/Abstract] OR "Crohn's"[Title/Abstract] OR "ulcerative colitis"[Title/Abstract] OR "inflammatory bowel disease"[Title/Abstract] OR "autoimmune anemia"[Title/Abstract:~4] OR "Diabetes Type 1"[Title/Abstract:~3]) AND ("Immunosuppressive Agents"[MeSH Terms] OR "Biological Products"[MeSH Terms] OR "interleukin inhibitor"[Title/Abstract:~3] OR "interleukin inhibitors"[Title/Abstract:~3] OR "Tumor necrosis factor inhibitor"[Title/Abstract] OR "tumor necrosis factor inhibitors"[Title/Abstract] OR "TNF inhibitor"[Title/Abstract] OR "TNF inhibitors"[Title/Abstract] OR "checkpoint inhibitor"[Title/Abstract] OR "checkpoint inhibitors"[Title/Abstract] OR "disease-modifying antirheumatic drugs"[Title/Abstract] OR "DMARD"[Title/Abstract] OR "DMARDs"[Title/Abstract] OR "biologic*"[Title/Abstract] OR "monoclonal antibody"[Title/Abstract] OR "monoclonal antibodies"[Title/Abstract] OR "immunosuppress*"[Title/Abstract] OR "immunotherap*"[Title/Abstract] OR "MTOR inhibitor"[Title/Abstract] OR "MTOR

inhibitors"[Title/Abstract] OR "steroids"[Title/Abstract] OR "corticosteroids"[Title/Abstract] OR "prednisone"[Title/Abstract] OR "prednisolone"[Title/Abstract] OR "methylprednisolone"[Title/Abstract] OR "dexamethasone"[Title/Abstract] OR "colchicine"[Title/Abstract] OR "Hydroxychloroquine"[Title/Abstract] OR "Sulfasalazine"[Title/Abstract] OR "leflunomide"[Title/Abstract] OR "cyclophosphamide"[Title/Abstract] OR "tacrolimus"[Title/Abstract] OR "dapsone"[Title/Abstract] OR "methotrexate"[Title/Abstract] OR "mycophenolate mofetil"[Title/Abstract] OR "Cellcept"[Title/Abstract] OR "Myfortic"[Title/Abstract] OR "azathioprine"[Title/Abstract] OR "anakinra"[Title/Abstract] OR "canakinumab"[Title/Abstract] OR "rilonacept"[Title/Abstract] OR "infliximab"[Title/Abstract] OR "adalimumab"[Title/Abstract] OR "golimumab"[Title/Abstract] OR "etanercept"[Title/Abstract] OR "certolizumab"[Title/Abstract] OR "tocilizumab"[Title/Abstract] OR "sarilumab"[Title/Abstract] OR "eculizumab"[Title/Abstract] OR "rituximab"[Title/Abstract] OR "belimumab"[Title/Abstract] OR "cyclosporine"[Title/Abstract] OR "abatacept"[Title/Abstract] OR "secukinumab"[Title/Abstract] OR "ixekizumab"[Title/Abstract] OR "brodalumab"[Title/Abstract] OR "guselkumab"[Title/Abstract] OR "mepolizumab"[Title/Abstract] OR "reslizumab"[Title/Abstract] OR "benralizumab"[Title/Abstract] OR "dupilumab"[Title/Abstract] OR "vedolizumab"[Title/Abstract] OR "tofacitinib"[Title/Abstract] OR "baricitinib"[Title/Abstract] OR "Upadacitinib"[Title/Abstract] OR "sirolimus"[Title/Abstract] OR "everolimus"[Title/Abstract] OR "thalidomide"[Title/Abstract] OR "lenalidomide"[Title/Abstract] OR "apremilast"[Title/Abstract] OR "nivolumab"[Title/Abstract] OR "pembrolizumab"[Title/Abstract] OR "atezolizumab"[Title/Abstract] OR "avelumab"[Title/Abstract] OR "ipilimumab"[Title/Abstract]))

g. HIV

"HIV Infections"[MeSH Terms] OR "Acquired Immunodeficiency Syndrome"[MeSH Terms] OR "HIV"[Title/Abstract] OR "AIDS"[Title/Abstract] OR "human immunodeficiency virus"[Title/Abstract] OR "Acquired Immunodeficiency Syndrome"[Title/Abstract]

Supplemental Table 2. Study Characteristics

Outcome: RSV-associated hospitalization (immunocompromised adults)

Author, year of publication	Location, dates of data collection	Study design	Population	Case	Control	RSV vaccine type	Results & Notes
Fry 2025	United States October 1, 2023 to April 30, 2024; data analyzed August 2024 to March 2025	Test-negative case control	Immunocompromised adults ≥60 years	Tested positive for respiratory syncytial virus	Tested negative for respiratory syncytial virus	RSV protein subunit vaccine	Vaccine effectiveness for hospitalized patients was 65.2% (95% CI, 57.3%-71.5%) for those aged 60 to 74 years and 72.4% (95% CI, 67.4%-76.6%) for those aged older than 75 years.
Payne 2024	United States October 1, 2023 to March 31, 2024	Test-negative case control	Immunocompromised adults ≥60 years	Positive respiratory syncytial virus test result	Negative respiratory syncytial virus test result	GSK or Pfizer respiratory syncytial virus vaccine	Vaccine effectiveness for hospitalization was 71% (95% CI, 46%–85%).

Outcome: Critical Illness

Author, year of publication	Location, dates of data collection	Study design	Population	Case	Control	RSV vaccine type	Results & Notes
Payne 2024	United States October 1, 2023 to March 31, 2024	Test-negative case control	Immunocompetent adults ≥60 years	Positive respiratory syncytial virus test result	Negative respiratory syncytial virus test result	GSK or Pfizer respiratory syncytial virus vaccine	262 cases and 26669 controls. Vaccine effectiveness was 81% (52–92) against respiratory syncytial virus-associated

							critical illness (ICU admission or death, or both).
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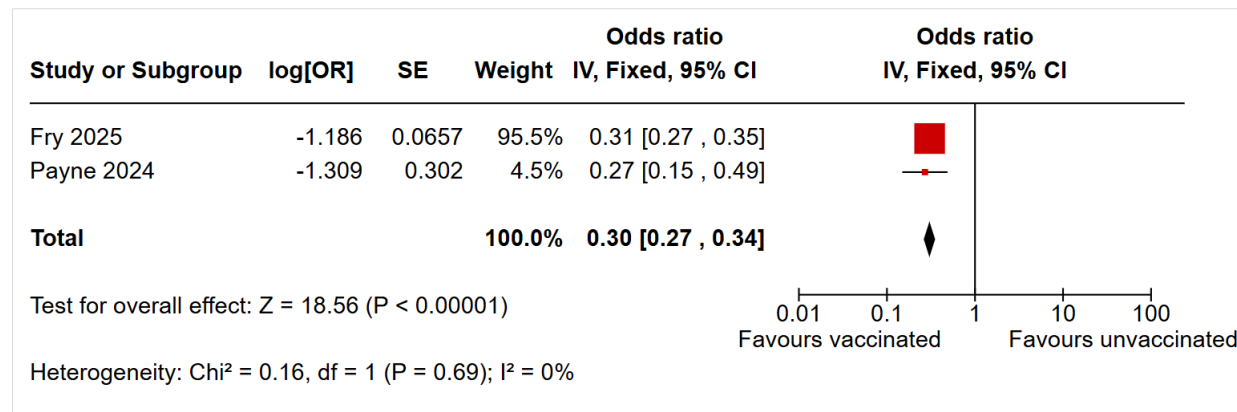
Outcome: Serious adverse events (SAEs)

Author, year of publication	Location, dates of data collection	Study design	Population	Intervention	Comparator	Results & Notes
Walsh 2025	United States, Canada, Japan, Finland, Netherlands, Argentina, South Africa August 31, 2021 to December 18, 2023	Randomized controlled trial	Adult $\geq$ 60 years	RSVpreF 120- μ g	Placebo	6.2% of RSVpreF and 6.1% of placebo recipients reported an SAE. The most commonly reported SAEs were cardiac disorders and infections and infestations.
Papi 2023	17 countries in Africa, Asia, Australia, Europe, and North America May 25, 2021 to January 31, 2022	Randomized controlled trial	Adult $\geq$ 60 years	Single dose of an AS01E - adjuvanted RSV prefusion F protein-based candidate vaccine (RSVPreF3 OA)	Placebo	The incidences of serious adverse events and potential immune-mediated diseases were similar in the two groups.
Wilson 2023	22 countries November 17, 2021, through October 31, 2022	Randomized controlled trial	Adult $\geq$ 60 years	One dose of mRNA-1345 (50 μ g)	Placebo	Serious adverse events occurred in 2.8% of the participants in each trial group.

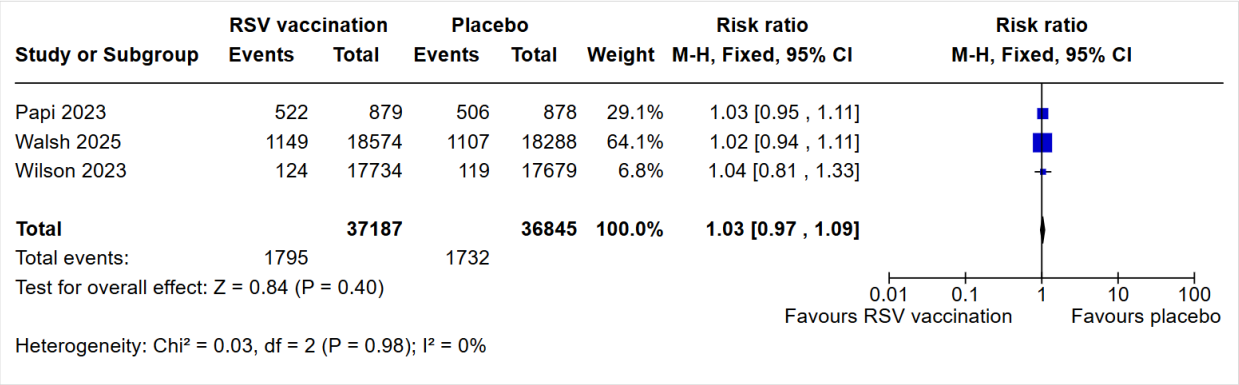
Outcome: Guillain-Barre syndrome

Author, year of publication	Location, dates of data collection	Study design	Population	Exposure	Control	RSV vaccine type	Results & Notes
Fry 2025	United States July 1, 2023 to June 30, 2024; data analyzed August 2024 to March 2025	Self-controlled case series	Adult ≥ 60 years	RSV vaccine; days 1 to 42 after vaccination (risk period)	Self-controlled; days 43 to 90 (control period)	RSV protein subunit vaccine	102 events out of 4746518; RR 2.1 (1.5 to 2.9).

Supplemental Figure 1. Forest plot for effectiveness of RSV vaccination against Influenza-associated hospitalization



Supplemental Figure 2. Forest plot comparing risk of serious adverse events between RSV vaccination and placebo



Supplemental Figure 3. Risk of bias assessment of studies included for RSV

		Risk of bias domains							
		D1	D2	D3	D4	D5	D6	D7	Overall
Study	Fry 2025								
	Payne 2024								
	Walsh 2025								
	Papi 2023								
	Wilson 2023								

Domains:

D1: Bias due to confounding.

D2: Bias due to selection of participants.

D3: Bias in classification of interventions.

D4: Bias due to deviations from intended interventions.

D5: Bias due to missing data.

D6: Bias in measurement of outcomes.

D7: Bias in selection of the reported result.

Judgement

 Serious

 Moderate

 Low

IDSA Conflict of Interest

Definitions

Affected Company:

An affected company is any commercial entity—including those involved in the development, manufacture, marketing, or distribution of pharmaceutical products, medical devices, diagnostics, or insurance services—that has, or is developing, a product, technology, or service that is directly related to the topic under consideration in the guideline.

- A non-profit organization is not considered a commercial entity, unless it engages in commercial activities or has financial interests that could be affected by the guideline topic.
- Governmental entities are not considered commercial entities. However, they may still present other types of potential conflicts, particularly intellectual or institutional conflicts, depending on the guideline context. IDSA will not consider governmental entities affected companies.

Related Products & Services:

For guidelines on RSV, influenza, and COVID-19 vaccination, companies should be considered affected if they have or are developing any product, technology, or service that could influence clinical decision-making or patient care related to these vaccines.

TABLE 1. RELATIONSHIPS PROHIBITED

1. Royalties, licensing fees, patents from any product or device related to the topic under consideration. This includes patents, the rights for which have been turned over to an institution but from which the individual benefits.
2. Serving as an officer, board of directors member or employee of any device, insurance, pharmaceutical or diagnostic product or commercial entity with a product or device related to the topic under consideration.
3. Representation of any commercial healthcare-related entity (with a product or device related to the topic under consideration) before FDA advisory committees or in any other interactions such an entity may have with FDA.
4. Any honoraria, gifts, or other payments (includes funds for travel/hotel) directly received from any relevant commercial healthcare-related entity (US and International). This includes participation in speakers bureaus labeled as promotional and/or when any associated presentation is content-restricted in any way, including, but not limited to, the requirement to use only company-provided material; paid for by any mechanism other than an unrestricted educational grant to a CME-approved (or other educational) entity; and/or product-specific.
5. Any activity not sponsored by the research arm of the company will NOT be allowed. For example, an advisory board sponsored by the marketing division, even if concentrating on “future research directions,” will NOT be allowed. In addition, consulting on post-research regulatory issues will NOT be allowed.
6. Stock or equity in any commercial healthcare-related entities (excludes diversified funds) related to the topic.
7. Advisory or consulting roles with an affected company will disqualify an individual from serving on the panel if: (a) Compensation is paid directly to the individual, regardless of the subject matter, or (b) The advisory or consulting work relates to the guideline topic, regardless of whether payment is made to the individual or their institution.
8. Serving as an investigator on a research study that is supported or sponsored by an affected company will disqualify an individual from serving on the panel if:

- (a) Compensation is paid directly to the individual, or
- (b) The research is related to the guideline topic, regardless of whether payment is made to the individual or their institution.

TABLE 2. RELATIONSHIPS ALLOWED

1. Advisory/consultancies with an affected company is allowed when the role is <i>unrelated</i> to the guideline topic and payment goes to the institution—not the individual. Exception, Chair(s)
2. Serving as an investigator on a research study that is supported or sponsored by an affected company is allowed if the study is <i>unrelated</i> to the guideline topic and payment goes to the institution—not the individual. If you are a panel chair and conduct research, IDSA will require a co-chair with no relationships.
3. Presentations at national or international meetings provided that: a. Presentations are non-promotional and there should be no involvement of industry in presentation content. There should be complete intellectual independence with regard to presentation content. b. There is NO direct payment by industry to an individual for his/her participation (any industry support of speaker expenses must be through a third-party organization (e.g., IDSA, ICAAC, ATS, etc.), institution, CME, or other educational provider. Exception, Chair(s)

References

1. Scott J, Abers MS, Marwah HK, et al. Updated Evidence for Covid-19, RSV, and Influenza Vaccines for 2025-2026. N Engl J Med **2025**.