Policy and Procedure PHARMACY PRIOR AUTHORIZATION MISCELLANEOUS PRODUCTS AND STEP THERAPY MEDICALLY INFUSED THERAPEUTIC **POLICY AND CRITERIA IMMUNOMODULATORS (TIMs)** ORPTCOTH021M.0224 See Table 1 for Applicable Medications Review/Revised Date: 01/17, 02/17, 03/17, 09/17, 01/17, 03/18, Effective Date: 4/1/2024 05/18, 11/18, 01/19, 03/19, 09/19, 12/19, 01/20, 04/20, 09/20, 05/21, 07/21, 9/21, 11/21, 05/22, 08/22, 09/23, 02/24 (BS) **P&T Committee Meeting Date**: 02/17, 02/17(cv), 03/17(cv), 04/17, Original Effective Date: 02/17 02/18, 03/18 (cv), 06/18, 12/18, 02/19, 04/19, 06/19, 10/19, 12/19 (cv), 02/20, 06/20, 10/20, 10/20 (off-cycle), 06/21, 08/21, 10/21, 10/21 (CV), 12/21, 06/22, 08/22, 10/22, 10/23, 02/24 Approved by: Oregon Region Pharmacy and Therapeutics Committee 1 of 16

SCOPE:

Providence Health Plan, Providence Health Assurance, Providence Plan Partners, and Ayin Health Solutions as applicable (referred to individually as "Company" and collectively as "Companies").

APPLIES TO:

Medicare Part B

POLICY CRITERIA:

COVERED USES:

All Food and Drug Administration (FDA)-approved indications not otherwise excluded from the benefit. Drug Compendia supported indications may be covered.

REQUIRED MEDICIAL INFORMATION:

- For all requests, the patient must have an FDA labeled indication for the requested agent, or use to treat the indication is supported in drug compendia (such as the American Hospital Formulary Service-Drug Information (AHFS-DI) or Truven Health Analytics' DRUGDEX® System.)
 AND
- The requested agent will not be given concurrently with another therapeutic immunomodulator (TIMs) agent or apremilast (Otezla®)
 AND
- 3. One of the following:
 - a. For patients <u>already established</u> on the requested TIMs agent within the previous year: Documentation of response to therapy (such as slowing of disease progression or decrease in symptom severity and/or frequency)
 - b. Patients <u>not established</u> on the requested TIMs agent (new starts), must meet ALL of the following indication-specific criteria (note: if indication is not listed below, the requested drug may be covered if it is an FDA approved indication for the requested drug):

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

- i. Requests for non-preferred infliximab products (Remicade® and Avsola®) will require documentation of failure, intolerance or contraindication to the preferred infliximab products, Inflectra® and Renflexis®, in addition to the indication-specific criteria below. Accepted contraindications include: contraindications listed in the package insert or a documented allergic reaction to an ingredient found only in the preferred biosimilar product(s).
- ii. For moderate to severe ulcerative colitis:
 - 1) Preferred infliximab products (Inflectra® and Renflexis®) or vedolizumab (Entyvio®) may be covered
 - 2) For non-preferred agents: documentation of failure, intolerance, or <u>contraindication</u> to a preferred infliximab product (Inflectra® or Renflexis®) or vedolizumab (Entyvio®)
 - i. For moderate to severe Crohn's disease:
 - 1) Preferred infliximab products (Inflectra® and Renflexis®) or vedolizumab (Entyvio®) may be covered
 - 2) For non-preferred agents: documentation of trial, failure, intolerance, or <u>contraindication</u> to a preferred infliximab product (Inflectra® or Renflexis®) or vedolizumab (Entyvio®)

ii. For rheumatoid arthritis:

- For all agents: Documentation of trial and failure, intolerance, or contraindication to at least one conventional therapy (such as methotrexate, leflunomide, hydroxychloroquine, sulfasalazine)
- For non-preferred agents: documentation of trial, failure, intolerance, or <u>contraindication</u> to a preferred infliximab product (Inflectra® or Renflexis®)
- iii. For moderate to severe plaque psoriasis:
 - For all agents: Documentation of trial and failure, intolerance, or contraindication to at least one conventional therapy (such as methotrexate, tazarotene, topical corticosteroids, calcitriol)
 - 2) For non-preferred agents: documentation of trial, failure, intolerance, or <u>contraindication</u> to a preferred infliximab product (Inflectra® or Renflexis®)

iv. For psoriatic arthritis:

1) For all agents: Documentation of trial and failure, intolerance, or contraindication to at least one conventional therapy (such as methotrexate, leflunomide, sulfasalazine)

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

- For non-preferred agents: documentation of trial, failure, intolerance, or <u>contraindication</u> to a preferred infliximab product (Inflectra® or Renflexis®)
- v. For ankylosing spondylitis:
 - 1) Preferred infliximab products (Inflectra® and Renflexis®) may be covered
 - 2) For non-preferred agents: documentation of trial, failure, intolerance, or <u>contraindication</u> to a preferred infliximab product (Inflectra® or Renflexis®)
- vi. For **giant cell arteritis**: Tocilizumab (Actemra®) may be approved with documentation of trial and failure, intolerance, or contraindication to at least one conventional therapy (such as systemic corticosteroid therapy)
- vii. For **systemic sclerosis (SSc-ILD)**, tocilizumab (Actemra®) may be covered if the patient has interstitial lung disease, as evidence by high-resolution computed tomography (HRCT)
- viii. For **immune checkpoint inhibitor related toxicities**, a preferred infliximab products (Inflectra® and Renflexis®) may be covered if one of the following criteria are met:
 - Moderate to severe diarrhea or colitis unresponsive to highdose systemic corticosteroids
 - 2) Moderate to severe pneumonitis if no improvement after 48 hours of high-dose systemic corticosteroids
 - Severe (stage 3) or life-threatening (stage 4) renal failure or elevated serum creatinine if toxicity remains greater than stage 2 after 4-6 weeks of corticosteroids
 - Myocarditis if unresponsive to high-dose systemic corticosteroids
 - 5) Moderate, severe, or life-threatening inflammatory arthritis unresponsive to corticosteroids or anti-inflammatory agents
 - Grade 1-4 uveitis that is refractory to high-dose systemic corticosteroids
- ix. For **sarcoidosis**, a preferred infliximab product (Inflectra® or Renflexis®) may be covered if one of the following criteria are met:
 - 1) Trial and failure, contraindication, or intolerance to corticosteroids (such as prednisone, methylprednisolone)
 - Trial and failure, contraindication, or intolerance to one immunosuppressant (such as methotrexate, cyclophosphamide, azathioprine)

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

Note:

- Conventional therapy requirements may be waived if the patient has previously used another therapeutic immunomodulator agent OR apremilast (Otezla®) for the same indication.
- Conventional therapy and preferred agent requirements may be waived with clinically appropriate medical rationale.

EXCLUSION CRITERIA: N/A

AGE RESTRICTIONS:

Age must be appropriate based on FDA-approved indication

PRESCRIBER RESTRICTIONS:

For patients <u>not established</u> on the requested TIMs agent: Must be prescribed by, or in consultation with, a specialist for the respective indication, such as:

- Rheumatoid arthritis, ankylosing spondylitis: must be prescribed by, or in consultation with, a rheumatologist
- Psoriasis: must be prescribed by, or in consultation with, a dermatologist
- <u>Psoriatic arthritis</u>: must be prescribed by, or in consultation with, a dermatologist or rheumatologist
- <u>Inflammatory Bowel Disease</u>: must be prescribed by, or in consultation with, a gastroenterologist
- Giant Cell Arteritis: must be prescribed by, or in consultation with, a rheumatologist or neurologist
- Systemic sclerosis-associated interstitial lung disease: must be prescribed by, or in consultation with, a pulmonologist or rheumatologist
- Immune checkpoint inhibitor related diarrhea/colitis: must be prescribed by, or in consultation with, an oncologist, gastroenterologist, pulmonologist, ophthalmologist or rheumatologist
- <u>Sarcoidosis</u>: must be prescribed by, or in consultation with a pulmonologist, ophthalmologist, neurologist, cardiologist, rheumatologist or dermatologist

COVERAGE DURATION:

- For immune checkpoint inhibitor related diarrhea/colitis: Authorization will be approved for three months
- For all other indications: Authorization will be approved until no longer eligible with the plan, subject to formulary or benefit changes

Requests for indications that were approved by the FDA within the previous six (6) months may not have been reviewed by the health plan for safety and effectiveness and inclusion on this policy

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

document. These requests will be reviewed using the New Drug and or Indication Awaiting P&T Review; Prior Authorization Request ORPTCOPS047.

Requests for a non-FDA approved (off-label) indication requires the proposed indication be listed in either the American Hospital Formulary System (AHFS), Drugdex, or the National Comprehensive Cancer Network (NCCN) and is considered subject to evaluation of the prescriber's medical rationale, formulary alternatives, the available published evidence-based research and whether the proposed use is determined to be experimental/investigational.

Coverage decisions are made on the basis of individualized determinations of medical necessity and the experimental or investigational character of the treatment in the individual case.

INTRODUCTION:

Therapeutic Immunomodulators (TIMs) have become standard of care in patients with moderate to severe, chronic inflammatory diseases where conventional therapies have not been adequate. These agents work by targeting specific steps in the inflammatory and immune cascade.

Table 1. Therapeutic Immunomodulators (TIMs) covered by this policy

Drug	HCPCS Code
Preferred Agents	
Infliximab-dyyb (Inflectra®)	Q5103
Infliximab-abda (Renflexis®)	Q5104
vedolizumab (Entyvio®)	J3380
Non-Preferred Agents ^t	
Infliximab (Remicade®)	J1745
Infliximab-axxq (Avsola®)	Q5121
tocilizumab (Actemra®)	J3262
abatacept (Orencia®)	J0129
tildrakizumab-asmn (Ilumya®)	J3245
golimumab IV (Simponi Aria®)	J1602
Certolizumab (Cimzia® lyophilized powder vial)	J0717
Agents Indicated for Induction Dosing Only	
ustekinumab (Stelara®)*	J3358
risankizumab-rzaa (Skyrizi® vial)**	J2327

^{*}intravenous ustekinumab is indicated for a one-time induction dose for Crohn's disease and ulcerative colitis. Subcutaneous ustekinumab is eligible for coverage, and is considered a preferred product under the pharmacy benefit. Medical benefit induction doses will be covered upon approval of a pharmacy benefit prior authorization.

^{**}intravenous risankizumab-rzaa is indicated for three induction doses for Crohn's disease. Subcutaneous risankizumab-rzaa is eligible for coverage, and is considered a preferred product

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

under the pharmacy benefit. Medical benefit induction doses will be covered upon approval of a pharmacy benefit prior authorization.

tAny self-administered TIMs agent that is requested for coverage through the medical benefit will be subject to requirements outlined in this policy.

FDA APPROVED INDICATIONS:

Table 2. Infusible therapeutic immunomodulators (TIMs) and their respective FDA-approved Indications

Drug	MOA	RA	CD	UC	Ps	PsA	AS	Other
abatacept (Orencia®)	T-cell inhibitor	Х				X (age 2+)		PJIA (age 2+) aGVHD (age 2+)
certolizumab (Cimzia®)	Anti- TNF	X	X		Χ	Х	Χ	NRAS
golimumab IV (Simponi Aria®)	Anti- TNF	Х				X (age 2+)	Х	PJIA (age 2+)
infliximab (Remicade®)	Anti- TNF	Х	X (age 6+)	X (age 6+)	Х	Х	Х	
infliximab-dyyb (Inflectra®)	Anti- TNF	Х	X (age 6+)	X (age 6+)	Х	Х	Х	
infliximab-abda (Renflexis®)	Anti- TNF	Х	X (age 6+)	X (age 6+)	Х	Х	Х	
infliximab-axxq (Avsola®)	Anti- TNF	Х	X (age 6+)	X (age 6+)	Х	Х	Х	
risankizumab-rzaa (Skyrizi®)	IL-23 inhibitor		X ²					
tildrakizumab-asmn (Ilumya®)	IL-23 inhibitor				Х			
tocilizumab (Actemra®)	IL-6 inhibitor	Х						GCA, PJIA/SJIA (age 2+), CRS (age 2+)
ustekinumab (Stelara® IV)	IL-12/23 inhibitor		X ¹	X ¹				
vedolizumab (Entyvio®)	α4β7 inhibitor		Х	Х				

¹Intravenous ustekinumab is indicated for a one-time induction dose for Crohn's disease and ulcerative colitis

Abbreviations: MOA = mechanism of action; RA = rheumatoid arthritis; SJIA = Systemic juvenile idiopathic arthritis; CD = Crohn's disease; UC = ulcerative colitis; Ps = psoriasis; PsA = psoriatic

²Intravenous Risankizumab-rzaa is indicated for a one-time induction dose for Crohn's disease

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

arthritis; AS = ankylosing spondylitis; GCA = giant cell arteritis; PJIA = Polyarticular Juvenile Idiopathic Arthritis; CRS = cytokine release syndrome; SSc-ILD = systemic sclerosis-associated interstitial lung disease; NRAS = non-radiographic axial spondyloarthritis; aGVHD = acute graft versus host disease

POSITION STATEMENT:

Preferred use of biosimilar medically infused therapeutic immunomodulators Biosimilars have been approved for use in the United States for several disease states that are currently treated with therapeutic immunomodulators. The United States Food and Drug Administration (FDA) defines a biosimilar as a "biological product that is highly similar to and had no clinically meaningful differences from an existing FDA-approved reference product." The Companies have chosen to favor the use of biosimilar products to provide quality clinical care to our members in the most cost-effective manner.

Infliximab

There are currently three approved biosimilars for infliximab: Inflectra® (infliximab-dyyb), Renflexis® (infliximab-abda), and Avsola® (infliximab-axxq). These agents have been FDA approved for all indications that the reference product (Remicade®) has been approved for. Therefore, it is clinically appropriate to use these agents instead of Remicade®. Additionally, there have been several moderate-to-high quality studies that support non-medical switching from Remicade® to infliximab biosimilars.

The NOR-SWITCH trial was a prospective, randomized double-blind study of 482 patients with inflammatory diseases in Norway. Disease states included in this study were: Crohn's disease (CD), ulcerative colitis (UC), spondylarthritis, rheumatoid arthritis, psoriatic arthritis, and chronic plaque psoriasis. This study included patients who had been treated on the reference drug Remicade® for an average of 6.9 years before switching to the biosimilar Inflectra®. Inflectra® was shown to be non-inferior to Remicade® when switching after at least six months of Remicade treatment. There were no significant differences between the groups in terms of safety. objective measures of disease activity, infliximab trough levels, or immunogenicity (anti-drug antibodies). There was a discontinuation rate of 4% for the Remicade® group and 3% for the Inflectra® group. A notable limitation of the NOR-SWITCH study is that it was not powered to make conclusions about treatment outcomes in the individual indications that were studied, so it is possible that outcomes for certain subgroups may differ. To address this limitation, the authors conducted an openlabel extension (OLE) and further subgroup analysis of the inflammatory bowel disease cohorts of the original NOR-SWITCH study. In the OLE, 100 patients who had been in the Remicade® arm of the initial study were switched in an unblinded fashion to Inflectra®. The author's found no difference in clinical outcomes with this

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

open-label switch, adjusted risk of disease worsening with switch to Inflectra for Crohn's disease 7.9% (95% CI –5.2 to 21) and ulcerative colitis 12.4% (-0.1 to 25). Both CD and UC outcomes had wide confidence intervals due to the low number of disease worsening events that occurred. Overall, the NOR-SWITCH study and subsequent open-label extension demonstrates that non-medical change of therapy from Remicade® to a biosimilar is not expected to have an inferior outcome to continuing Remicade®. ^{2,3}

Bergqvist et al conducted a prospective, observational, open-label study switching 313 consecutive patients receiving Remicade® for inflammatory bowel disease to Inflectra®. This was a multi-center study performed in County of Skåne, Sweden that was funded by a variety of non-industry sponsored grants. All but one of these patients was in the maintenance phase of therapy (i.e., there was one patient still in the induction phase of therapy) and the average time on Remicade® was 4.6 years (range 0.4-16.6 years) for CD and 3.6 years (range 0.2-9.6 years) for UC. At baseline, 33.8% of CD patients and 28.4% of UC patients had clinical disease activity, although no patients would have been considered to have relapsed disease. Comparisons were made between baseline and follow-up clinical disease scores [Harvey-Bradshaw Index (CD) and Simple Clinical Colitis Activity Index (UC)], objective biomarkers [e.g., fecal calprotectin, erythrocyte sedimentation rate (ESR). C-reactive protein (CRP), etc.], and patient quality of life (Short Health Scale composite scores). The authors found no differences between groups after switching to Inflectra®. In a similar analysis to NOR-SWITCH, 14.0% of patients in the CD group and 13.8% in the UC group had clinical worsening after the switch. This is lower than what was reported in NOR-SWITCH and acts to refute non-inferiority concerns some have expressed regarding NOR-SWITCH. The overall number of patients in remission at baseline increased from 68.2% to 78.9% for CD and 66.2% to 71.6% for UC; these were not statistically significant results.4

The DANBIO registry study observed the effects of a nationwide non-medical switch from Remicade® to Inflectra® in Denmark. Patients (n=802) were identified as switching from Remicade® to Inflectra®; these patients had an average treatment duration of 6.8 years on Remicade®. The authors found no differences in clinical outcomes between the three months before and after the mandated switch. There were similar one-year retention rates between the Inflectra® switch group and a historic Remicade® cohort, 84.1% (95% CI 81.3-86.5) and 86.2% (95% CI 84.8-88.8), respectively. The authors note that compared to the blinded NOR-SWITCH study, the discontinuation rate was higher in this analysis possibly due to the "nocebo" effect in addition to loss of efficacy and side effects. The nocebo effect is the negative counterpart to the placebo effect wherein an active therapy or sham

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

therapy causes a negative outcome based on psychological factors (e.g., negative expectations associated with a change in therapy).⁵

Smolen *et al* conducted a randomized, double-blind, switching study as a continuation of a phase III study of Renflexis® in patients with moderate-to-severe rheumatoid arthritis. Patients (n=396) who completed the initial study which randomized 1:1 initial treatment with Renflexis® vs Remicade® agreed to participate in the follow-up switching study. In the switching study, patients who received Remicade® in the initial study (n=195) were randomized to receive either continued Remicade® (n=101) or switched to Renflexis® (n=94) at week 54 of treatment. Clinical outcomes, safety, and immunogenicity were followed through week 78. Overall, no differences were found between the groups for any of the measured efficacy, safety, or immunogenicity outcomes.⁶

Based on the above moderate-to-high quality studies, a switch from Remicade® to an infliximab biosimilar is expected to have similar clinical efficacy, safety, and immunogenic outcomes as remaining on Remicade®, even in patients who have been long established on Remicade®. Therefore, in the absence of a contraindication, adverse event, or clinical failure of the preferred biosimilar infliximab agents, it is appropriate to transition members from Remicade® to more cost-effective formulations of infliximab.

Inflammatory Bowel Disease

Crohn's Disease (CD)

Based on the available evidence and national practice guidelines, TIMs are effective agents in inducing and maintaining remission in severe, active CD. These agents are typically used when conventional therapies (e.g., corticosteroids, mesalamine, 6-MP and azathioprine) have failed to induce remission. Overall, there is insufficient direct comparative evidence for the efficacy of TIMs in the treatment of severe, active CD; all FDA approved agents have shown to be superior to placebo and are considered to have comparable efficacy.

The American Gastroenterological Association (AGA), in their <u>2021 guidelines</u>, defines moderate to severe luminal Crohn's disease as any of the following:

- CDAI score of at least 220
- High risk of adverse disease-related complications, such as surgery, hospitalizations, and disability based on a combination of structural damage, inflammatory burden, and impact on quality of life

The AGA recommends the use of infliximab, adalimumab, ustekinumab, or vedolizumab over certolizumab for the induction of remission in patients without previous use of TIMs agents. In primary non-responders to TNF agents, they

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

recommend use of ustekinumab to induce remission (vedolizumab may be considered). For those that loss response to infliximab, they recommend adalimumab or ustekinumab to induce remission (vedolizumab may be considered). For patients with moderate to severe disease, biologic therapy is recommended to induce remission instead of 5-aminosalicylates and/or corticosteroids.⁷

Ulcerative Colitis (UC)

Based on the available evidence and national practice guidelines, TIMs are effective agents in inducing and maintaining remission in moderate to severe UC. These agents are typically used when conventional therapies (e.g., aminosalicylates, topical mesalamine, corticosteroids, 6-mercaptopurine, and azathioprine) have failed to induce remission. Infliximab may be more consistently efficacious for inducing remission and mucosal healing than adalimumab. Vedolizumab is a non-anti-TNF therapy option for the treatment of UC. Overall, there is insufficient direct comparative evidence for the efficacy of TIMs in the treatment of moderate to severe UC; all FDA approved agents have shown to be superior to placebo and are considered to have comparable efficacy.

In 2020, the Institute for Clinical and Economic Review (ICER) published a report on TIMs for UC, assessing the following therapies: adalimumab, golimumab, infliximab and biosimilars, tofacitinib, and ustekinumab. All agents were found to be clinically superior than placebo, and all were found to be comparable to adalimumab. It was noted that vedolizumab was "found to produce greater rates of clinical response and remission over adalimumab, the market leader, in both patients who had used TIMs previously ("biologic-experienced") as well as those who did not ("biologic-naïve")." No agents were found to be cost-effective at current drug costs, but infliximab and its biosimilars represent the best value for money for UC.⁸

The AGA, in their <u>2020 guidelines</u>, defines moderate to severely active UC as any of the following:

- Patients deemed to be at high-risk for colectomy
- Mayo Clinic Score 6–12, with Mayo Endoscopic Subscore 2 or 3
- Severely active endoscopic disease, with ulcers
- Patients with corticosteroid dependence, or refractory to oral corticosteroids

The AGA recommends infliximab, adalimumab, golimumab, vedolizumab, tofacitinib, or ustekinumab over no treatment; however, they suggest the use of infliximab or vedolizumab over adalimumab for the induction of remission in patients without previous use of TIMs agents. They do not recommend the use of tofacitinib in this setting, unless in a clinical trial. In primary non-responders to infliximab, they

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

suggest use of ustekinumab or tofacitinib rather than vedolizumab or adalimumab for induction of remission. ⁹

Guidelines:

- American Gastroenterological Association: http://www.gastro.org/guidelines
- American College of gastroenterology: https://gi.org/clinical-quidelines-sortable-list/

Rheumatologic Disorders

Rheumatoid arthritis (RA)

Based on the available evidence and national practice guidelines, TIMs are effective agents in treating moderate to severe RA. These agents are typically used when non-biologic disease-modifying anti-rheumatic drugs (DMARDs), such as methotrexate, have failed. There is limited direct comparative evidence for the efficacy of TIMs in the treatment of moderate to severe RA; all FDA approved agents have shown to be superior to placebo.

In 2017, the Institute for Clinical and Economic Review (ICER) published a review of the Targeted Immune Modulators for Rheumatoid Arthritis. They reviewed the following therapies:

- TNFα inhibitors: adalimumab (Humira®), certolizumab pegol (Cimzia®), etanercept (Enbrel®), golimumab (Simponi® and Simponi Aria®), infliximab (Remicade®):
- CD20-directed cytolytic B-cell antibody: rituximab (Rituxan®)
- T-cell inhibitor: abatacept (Orencia®)
- IL-6 inhibitors: tocilizumab (Actemra®,), sarilumab (Kevzara™)
- JAK inhibitors: tofacitinib (Xeljanz®), baricitinib (Olumiant™)

Using a network meta-analysis, the review suggests that all agents are superior to conventional DMARD monotherapy. There have been some head-to-head trials conducted between the TIMs agents and adalimumab was found to be inferior to monotherapy with tocilizumab or sarilumab in terms of achieving clinical remission or ACR responses; these agents were rated as B+ over adalimumab (Moderate certainty of a small or substantial net health benefit, with high certainty of at least a small net health benefit). Abatacept was given the same B+ rating over infliximab. Tofacitinib is considered more costly and less effective than adalimumab.¹¹

In 2020, ICER published an updated report including newer JAK Inhibitors and biosimilars used for Rheumatoid Arthritis. The review concludes that the JAK inhibitors upadacitinib and tofacitinib are superior to conventional DMARD therapy.

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

These agents both received an A rating over DMARDs (high certainty of substantial net health benefit) in TIM-naïve patients and B+ in TIM-experienced patients. Upadacitinib was rated B+ over adalimumab, tofacitinib was rated C (comparable) to adalimumab, and the infliximab biosimilar (Inflectra®) was rated C to Remicade® in TIM-naïve patients. 12

Juvenile Idiopathic Arthritis (JIA), Ankylosing Spondylitis (AS), Psoriatic Arthritis (PsA)

Based on the available evidence and national practice guidelines, TIMs are effective agents in treating these conditions. There is limited and/or insufficient direct comparative evidence for the efficacy of TIMs in these conditions; all FDA approved agents have shown to be superior to placebo and are considered to have comparable efficacy.¹⁰

Guidelines:

 American College of Rheumatology: https://www.rheumatology.org/Practice-Quality/Clinical-Support/Clinical-Practice-Guidelines

Dermatologic Disorders

Plaque psoriasis (Ps)

Based on the available evidence and national practice guidelines, TIMs are effective agents in treating moderate to severe plaque psoriasis and are generally initiated when standard conventional therapies (e.g., topical therapy and phototherapy) are inadequate. Low quality evidence suggests that ustekinumab, secukinumab, and ixekizumab may have better efficacy than etanercept, but there were sufficient limitations identified to render the evidence of uncertain validity. At this time, all FDA approved agents have shown to be superior to placebo and are considered to have comparable efficacy. ^{13,14}

Guidelines:

 American Academy of Dermatology: https://www.aad.org/practicecenter/quality/clinical-guidelines

Immune checkpoint inhibitor (ICI) related diarrhea/colitis

Diarrhea and colitis, inflammatory arthritis, and elevated serum creatinine are a few common symptoms of treatment with ICI therapy. The National Comprehensive Cancer Network (NCCN) recommends addition of infliximab when there is no response to other conventional therapy (if applicable). ¹⁵

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

REFERENCE/RESOURCES:

- 1. Relevant package inserts
- Jørgensen KK, Olsen IC, Goll GL et al. Switching from originator infliximab to biosimilar CT-P13 compared with maintained treatment with originator infliximab (NOR-SWITCH): a 52-week, randomised, double-blind, noninferiority trial. Lancet. 2017;389:2304-16.
- 3. Jørgensen KK, Goll GL, Sexton J. Efficacy and safety of CT-P13 in inflammatory bowel disease after switching from originator infliximab: exploratory analyses from the NOR-SWITCH main and extension trials. BioDrugs. 2020;34:681-94.
- 4. Bergqvist V, Kadivar M, Molin D et al. Switching from originator infliximab to the biosimilar CT-P13 in 313 patients with inflammatory bowel disease. Ther Adv Gastroenterol. 2018;11:1-13.
- Glintborg B, Sørensen IJ, Loft AG et al. A nationwide non-medical switch from originator infliximab to biosimilar CT-P13 in 802 patients with inflammatory arthritis: 1-year clinical outcomes from the DANBIO registry. Ann Rheum Dis 2017;76:1426-31.
- Smolen JS, Choe JY, Prodanovic N et al. Safety, immunogenicity and efficacy
 after switching from reference infliximab to biosimilar SB2 compared with
 continuing reference infliximab and SB2 in patients with rheumatoid arthritis:
 results of a randomised, double-blind, phase III transition study. Ann Rheum
 Dis. 2018;77:234-40.
- 7. Feuerstein JD, Ho EY, Schmidt E et al. American Gastroenterological Association (AGA) Clinical Practice Guidelines on the Medical Management of Moderate to Severe Luminal and Perianal Fistulizing Crohn's Disease. *Gastroenterology* 2021;160:2496–2508.
- ICER. An assessment of treatments for ulcerative colitis. Available at https://icer.org/assessment/ulcerative-colitis-2020/ (Accessed October 11, 2023)
- Feuerstein JD, Isaacs KL, Schneider MS et al. American Gastroenterological Association (AGA) Clinical Practice Guidelines on the Management of Moderate to Severe Ulcerative Colitis. Gastroenterology 2020;158:1450– 1461.
- 10. American College of Rheumatology (ACR). ACR Guideline for the Treatment of Rheumatoid Arthritis, 2015. Available at https://www.rheumatology.org/Portals/0/Files/ACR%202015%20RA%20Guideline.pdf (Accessed October 11, 2023)
- 11. Institute for Clinical and Economic Review (ICER). Rheumatoid Arthritis: Final Report. Available at https://icer-review.org/material/ra-final-report/ (Accessed October 11, 2023)

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See <u>Table 1</u> for Applicable Medications

- 12. ICER. Rheumatoid Arthritis: An assessment of JAK inhibitors. Available at https://icer.org/assessment/rheumatoid-arthritis-2019/ (Accessed October 11, 2023)
- 13. Oregon State University Drug Use Research & Management Program. Drug Class Update: Targeted Immune Modulators for Autoimmune Diseases. Available at
 - https://www.orpdl.org/durm/meetings/meetingdocs/2021_10_07/finals/Biologic sAutoimmune_ClassUpdate.pdf (Accessed October 11, 2023)
- 14. American Academy of Dermatology (AAD) and National Psoriasis Foundation (NPF). Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics. Available at https://www.jaad.org/article/S0190-9622(18)33001-9/fulltext. Accessed (October 11, 2023)
- 15. National Comprehensive Cancer Network (NCCN). NCCN Guidelines Management of Immunotherapy-Related Toxicities Version 2.2023. Available at https://www.nccn.org/professionals/physician_gls/pdf/immunotherapy.pdf (Accessed October 11, 2023)

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See Table 1 for Applicable Medications

Appendix 1. Contraindication(s) for TIMs agents

TIMs Agent	Contraindication(s)
Abatacept (Orencia®)	None
Certolizumab (Cimzia®)	History of hypersensitivity reaction to certolizumab pegol or to any of the excipients. Reactions have included angioedema, anaphylaxis, serum sickness, and urticaria
Golimumab (Simponi Aria®)	None
Infliximab (Remicade®) and infliximab biosimilars	Doses > 5 mg/kg in moderate to severe heart failure; hypersensitivity reaction to infliximab, its inactive components, or to any murine proteins
Risankizumab-rzaa (Skyrizi®)	History of serious hypersensitivity reaction to risankizumab-rzaa or any of the excipients
Tildrakizumab-asmn (Ilumya®)	Previous serious hypersensitivity reaction to tildrakizumab or to any of the excipients
Tocilizumab (Actemra®)	Hypersensitivity to Actemra®
Ustekinumab (Stelara®)	Clinically significant hypersensitivity to ustekinumab or to any of the excipients
Vedolizumab (Entyvio®)	Known serious or severe hypersensitivity reaction to Entyvio® or any of its excipients

Appendix 2. Conventional Agent Prerequisites by Indication

Compendial Supported Indications	Conventional Agent Prerequisites
Rheumatoid arthritis (RA)	methotrexate leflunomide hydroxychloroquine
	sulfasalazine
Polyarticular juvenile idiopathic arthritis (PJIA)	methotrexate leflunomide sulfasalazine
Psoriasis (PS)	methotrexate topical corticosteroids coal tar products anthralin calcipotriene calcitriol acitretin tazarotene cyclosporine methoxsalen tacrolimus pimecrolimus PUVA (phototherapy)
Psoriatic arthritis	methotrexate

MISCELLANEOUS PRODUCTS MEDICALLY INFUSED THERAPEUTIC IMMUNOMODULATORS (TIMs)

See Table 1 for Applicable Medications

Compendial Supported Indications	Conventional Agent Prerequisites
	leflunomide
	sulfasalazine
	difluprednate
	oral prednisone
	periocular/intraocular glucocorticoid injection
Uveitis	
	Accept but do not offer: azathioprine,
	mycophenolate, methotrexate, cyclosporine,
	tacrolimus, cyclophosphamide
Giant Cell Arteritis	Systemic corticosteroid therapy