IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Fraunhofer et al.

U.S. Patent No.: 9,085,619 Issue Date: July 21, 2015 Appl. Serial No.: 14/506,576

Filing Date: October 3, 2014

Title: ANTI-TNF ANTIBODY FORMULATIONS

Mail Stop Patent Board

Patent Trial and Appeal Board U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450

DECLARATION OF DAVID D. SHERRY, M.D.

Coherus BioSciences Inc. **EXHIBIT 1207**IPR Petition for U.S. Patent No. 9,085,619

TABLE OF CONTENTS

I.	Qualifications and Background Information		1
II.	Compensation		2
III.	Materials Considered		3
IV.	Background		3
	A.	Rheumatic Diseases and their Treatment	3
	B.	Humira®	5
V.	PATIENT EXPERIENCE IN THE USE OF RHEUMATIC DISEASE TREATMENTS		8
	A.	Humira® Causes Injection Site Pain	8
	B.	The Pain of Humira® Injection Is Not Due to Injection Alone and Is Not Found in Other Rheumatic Disease Treatments	10
VI.	Overview of the Prior Art		12
	A.	Injection Site Pain Was a Known Reaction to Humira®	12
	B.	Injection Site Pain Has Been Clearly Linked to the Buffers Used in Humira®	14
	C.	There Would Have Been a Motivation to Remove or Modify the Buffers in Humira®	17
VII	Cross	s Examination and Oath	19

I. QUALIFICATIONS AND BACKGROUND INFORMATION

- 1. I received my M.D. from Texas Tech University School of Medicine in 1977. I completed my internship (1978), and then my residency (1980) in pediatrics at Duke University Medical Center. I afterwards had a fellowship in pediatric rheumatology at the University of British Columbia from 1980 through 1982.
- 2. From 1982 to 1984, I was Assistant Clinical Professor of Pediatrics at the University of Southern California while practicing in the Division of Rheumatology and Rehabilitation at the Childrens Hospital of Los Angeles. From 1984 to 2002, I was Assistant Professor of Pediatrics, then Associate Professor and Professor at the University of Washington in Seattle. During that time in Seattle, I practiced and then was also Director of Pediatric Rheumatology at the Children's Hospital and Regional Medical Center in Seattle.
- 3. Since 2002, I have been Professor of Pediatrics at The Children's Hospital of Philadelphia, Perelman School of Medicine at the University of Pennsylvania. I have also practiced as the Chief Rheumatology Section during that time.
- 4. I sat for my medical boards in 1979, and I received certifications in pediatrics in 1981, and in pediatric rheumatology in 1992, and again in 1999 and

- 5. My practice focuses on the treatment of children with rheumatic and inflammatory diseases, including juvenile idiopathic arthritis and its subtypes. In the course of treating these diseases, I regularly prescribed treatments such as methotrexate and anti-TNF α biologics such as Remicade \mathbb{R} , Enbrel \mathbb{R} , Humira \mathbb{R} , and others.
- 6. In addition to patients with rheumatic illnesses, I have had a long time interest in children with various forms of amplified pain, thereby making pain and the experience thereof a clinical and research interest. This specifically has included injection pain. Likewise it includes the emotional impact of pain on the child and family albeit mostly in those with chronic pain.
- 7. A copy of my *curriculum vitae* is attached as Exhibit A to this Declaration.

II. COMPENSATION

8. I have been retained in this matter by Rothwell, Figg, Ernst & Manbeck, P.C. ("Rothwell Figg"). I am being compensated at my customary rate of \$650 per hour for my work in this matter. I do not have any personal or financial stake or interest in the outcome of the Petition for *Inter Partes* Review or any

Declaration of David D. Sherry, M.D. Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira® related action. My compensation in no way depends upon my testimony or the outcome of the Petition for *Inter Partes* Review.

9. I have been advised that Rothwell Figg represents Coherus
Biosciences Inc. ("Coherus" or "Petitioner") and that AbbVie Biotechnologies Ltd.
("AbbVie" or "Patent Owner") owns U.S. Patent No. 9,085,619 ("the '619 patent"). I have no personal or financial stake or interest in Coherus, AbbVie, or the '619 patent.

III. MATERIALS CONSIDERED

10. In preparing this declaration, I have considered my own knowledge and experience, including my work and experience as a practicing doctor in the field rheumatology and my experience prescribing Humira® and other treatments for juvenile idiopathic arthritis. In addition to the materials cited herein, I have read the '619 patent. A list of documents I have considered is attached as Appendix A to this Declaration.

IV. BACKGROUND

A. Rheumatic Diseases and their Treatment

11. Rheumatic diseases, such as rheumatoid arthritis (RA), are characterized by chronic inflammatory symptoms. In adults, RA symptoms include inflammation of the joints, including swelling, pain, and stiffness. RA also involves progressive damage to cartilage and bone, leading to decreased mobility.

Other diseases include psoriatic arthritis, which also causes joint inflammation and damage, but is seen in association with psoriasis. These diseases, and other inflammatory diseases like them, can be severely debilitating, causing not only intense pain but also gradually progressing damage leading to handicap.

- 12. In children, rheumatic diseases include juvenile idiopathic arthritis (JIA) and its seven subtypes. Certain of these subtypes are treated in essentially the same way as counterpart disease in adults. Children with polyarticular JIA, for example, can be rheumatoid-factor positive, and their disease is essentially identical to adult RA. Children with juvenile psoriatic arthritis may also present very similar symptoms and disease progression as adult psoriatic arthritis.
- 13. In adults and children with these rheumatic diseases, drugs are used to treat the symptoms of the disease. Additionally, one category of drugs known as disease modifying anti rheumatic drugs (DMARDs) more aggressively treat the diseases and can slow the damage caused by the arthritis. Except in patients which present with more severe or advanced disease, methotrexate is often the first DMARD prescribed for, for example, RA and rheumatoid-factor positive JIA. As the disease progresses, more potent drugs, such as the so-called anti-TNF α drugs, are usually prescribed.
- 14. The first anti-TNF α drugs approved in the U.S. were Remicade® and Enbrel®, both biologic products approved in 1998 which target and bind to TNF α .

Remicade® is a recombinant antibody intended for I.V. infusion, while Enbrel® is a soluble receptor for TNF α bound to a portion of an antibody intended for weekly subcutaneous injection. Both have often been used as the next DMARD prescribed if methotrexate is not sufficiently effective or an untoward reaction to it occurs.

B. Humira®

- adalimumab, which is "a recombinant human IgG1 monoclonal antibody specific for human tumor necrosis factor (TNF)." Ex. 1205, 1. Humira® has been approved by the FDA for treatment of moderate to severe rheumatoid arthritis since late 2002, and adalimumab (also known as D2E7) has been recognized as a protein with promising activity in rheumatoid arthritis for nearly two decades. *See id.*; Ex. 1273, 4.
- 16. By November 2007, Humira® had been widely studied in and used in the treatment of rheumatoid arthritis and for several other inflammatory conditions. For example, Humira® was approved for treatment in psoriatic arthritis in 2005. *See* Ex. 1274. Several additional conditions had either become approved indications in the use of Humira® or would have been under active regulatory review during this time period. These additional conditions included ankylosing spondylitis, Crohn's Disease, plaque psoriasis, and juvenile idiopathic arthritis. *See* Ex. 1275; Ex. 1206; Ex. 1276; Ex. 1277.

17. Humira® was originally approved for use in a 40 mg per 0.8 mL dose, which equates to a 50 mg/mL concentration. Ex. 1205, 1. According to the Humira® label:

Each 0.8 mL HUMIRA contains 40 mg adalimumab, 4.93 mg sodium chloride, 0.69 mg monobasic sodium phosphate dihydrate, 1.22 mg dibasic sodium phosphate dihydrate, 0.24 mg sodium citrate, 1.04 mg citric acid monohydrate, 9.6 mg mannitol, 0.8 mg polysorbate 80 and Water for Injection, USP.

This was the only formulation available on the market through 2007. *See* Ex. 1206. In fact, this formulation was the only formulation available through most of 2015, when a higher concentration formulation was approved. *See* Ex. 1251. This higher concentration formulation was a 40 mg per 0.4 mL dose, equating to 100 mg/mL, and it contained only mannitol, polysorbate 80, and water. *Id.* at 24. One clear difference in the formulations is that phosphate and citrate, which acted as buffers in the first formulation and accounted for more than half of the listed excipients, were absent in the later formulation.

18. I have prescribed Humira® for pediatric patients with several types of rheumatic disease within months of it coming on the market in 2003, although such usage would have been considered "off-label" as the first pediatric indication was not until 2008. *See* Ex. 1275, 1. "Off-label" prescription of drugs are legal and very common. This is especially true in the world of pediatric care where, due to the few drugs approved for use in children, physicians often must rely on off-label

Declaration of David D. Sherry, M.D.
Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira® prescriptions. It has been estimated that "80 percent of drugs prescribed for

children are administered for unindicated uses." Ex. 1278, 139.

- My use of Humira® was generally in children from around 5 years of 19. age through college students at 21 years old. As Humira® had initially only been tested in and approved for the treatment of adults, my prescription of Humira® had to take into account that children can be much smaller than adults. As such, for my older (and larger) patients, I prescribed the indicated course of treatment of one full injection every other week, while for smaller patients, I asked parents to inject only half of the product and to dispose of the remainder. This decision was guided by my years of experience as a doctor and by my knowledge of how other anti-TNF drugs were used in children. By the time Humira® was on the market, another anti-TNF drug, Enbrel®, contained instructions for weight-guided dosing in children. Ex. 1279, 24. Finally, as a member of the community of pediatric rheumatologists, I was aware of the size-based doses administered in the studies which eventually led to Humira®'s being approved for the treatment of juvenile idiopathic arthritis. See Ex. 1275. As such, my prescription of Humira® to children closely aligned with the dosing instructions that eventually accompanied the approved indication for juvenile idiopathic arthritis. *Id.* at 1.
- 20. In my experience, many rheumatologists with pediatric patients were prescribing Humira® to those patients during this period. In prescribing Humira®

Declaration of David D. Sherry, M.D. Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira® to pediatric patients, I have interacted with the patients and their parents, and I have received feedback on the patient's experience in the use of the drug from them.

V. PATIENT EXPERIENCE IN THE USE OF RHEUMATIC DISEASE TREATMENTS

A. Humira® Causes Injection Site Pain

- 21. When Humira® first became available, it was my experience that many patients, parents, and medical practitioners were interested in a new therapy. Some patients were no longer responsive to existing treatments and some were interested in a treatment with the convenience of subcutaneous dosage (over the intravenous Remicade®). However, practitioners were aware that some patients experienced injection site pain when taking Humira®. These reports are confirmed in literature that was available in November of 2007, which I discuss in more detail in Section VI(A), below. Because of these injection-pain problems, I would counsel patients about the possible pain that they might experience when using Humira® when discussing the potential benefits and detriments of available therapies.
- 22. Almost immediately following the earliest uses of Humira®, I heard from many of my patients that the injection site pain was a serious issue. Although tolerance to pain can vary widely between patients, in my experience approximately 95% of my patients have reported pain with the injection of

Humira®. For some of these patients, the pain was unpleasant but bearable, and the patients learned to cope with the pain over time. However, for a significant portion of my patients, which I estimate as approximately 10-20%, the every-other-week Humira® injection became a dreaded event and sometimes devolved into a struggle for parents to get the patients to take the injection.

As such, the pain issues in Humira® presented a real and definite 23. issue which adversely impacted patient compliance. In my younger patients whose injections were administered by their parents, these injections could become a major source of conflict. The anticipation of the pain from the scheduled injection sometimes had serious impacts on mood where patients' dread at the upcoming injection could almost be overwhelming. In some of these patients, this extreme unwillingness amounted to refusal to take their injection and necessitated counseling, longer periods between injections, or changes in treatment to another therapy. In some of my older patients whose injections were self-administered, issues of pain could result in failure to comply with dosing instructions. Patient compliance is an important issue, and the failure of a patient to take a drug can pose a problem regardless of how effective a drug may be. The painful injections associated with Humira® led to skipped injections and to the interval between injections stretching from two weeks to much longer periods with potentially serious impacts on the efficacy of the treatment.

- 24. Although my personal experience of pain reported in the use of Humira® is limited to my pediatric practice which consists largely of children and a small number of early-college-aged adults, the experience of these patients is experienced across all patient populations. Although adults may have increased tolerance to pain compared to children, an increase in the tolerance of pain does not mean a decrease in pain experienced. As such, while the rate of reported pain and of patients unable to deal with the pain of Humira® injections would naturally be less in adults than in children, pain would still likely be experienced across both child and adult patient populations.
 - B. The Pain of Humira® Injection Is Not Due to Injection Alone and Is Not Found in Other Rheumatic Disease Treatments
- 25. When I prescribed Humira® from the time of its availability to the priority date of the '619 patent, the majority of my patients had already received treatment for their conditions, usually other injectable therapies. A standard progression of treatment usually began, when possible, with the use of milder therapies, such as local injections into affected joints or injections of methotrexate. For patients with more advanced disease or certain diagnoses, the anti-TNF treatments Enbrel® or Remicade® were then used, with a preference for Enbrel® as a subcutaneous injection which could be administered at home instead of requiring hours-long intravenous infusion at a doctor's office as Remicade® does. *See* Ex. 1280; Ex. 1281. Because these drugs had been on the market longer, they

Declaration of David D. Sherry, M.D.

Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira® were often the first anti-TNF agent used. I personally had more experience with them and thus greater comfort with their use. In addition, Enbrel® included pediatric use data from its approval date. Ex. 1280, 4. As such, almost every Humira® patient in my practice had been treated with other injectable therapies prior to their use of Humira®.

- 26. In my experience, patients who had been treated with Humira® and other injectable treatments such as methotrexate or Enbrel®, the use of Humira® was accompanied by more pain in the vast majority of patients. For my patients, pain issues with methotrexate or Enbrel® were largely attributed to the injection itself (i.e., the needle stick), while the drugs themselves were rarely described as being particularly painful. Pain was such a minor issue for some of these patients that methotrexate specifically was capable of being administered by parents while the patient slept. Similar administration of Humira®, however, was not feasible due to the painful nature of the injection.
- 27. Although there are compliance issues with injectables in children, in my experience the degree of patients' delaying or skipping doses is much greater in those on Humira® compared to methotrexate or Enbrel®. The number of patients who actually discontinue the drug due to the injection experience is almost, but not quite, exclusively in those receiving Humira®.

VI. OVERVIEW OF THE PRIOR ART

- A. Injection Site Pain Was a Known Reaction to Humira®
- My experience with my patients' experiencing pain with Humira® 28. injections was not unique. The Humira® Label disclosed that "[t]he most common adverse reaction with HUMIRA was injection site reactions," which includes injection site pain. Ex. 1205, 6. Injection site pain specifically was reported in 12% of patients administering Humira® and 12% administering the placebo for Humira® during placebo-controlled studies referred to in the Label as "Studies I, II, III, and IV." *Id.* at 7-8. In my opinion, this number is not the proportion of patients who experienced pain, but rather the percentage of patients who experienced pain to such a degree that they felt it necessary to report it. The fact that this same high 12% of patients taking placebo injections also reported pain suggests that the pain associated with Humira® is caused by the formulation components, rather than the active adalimumab antibody itself. As I discuss in Section VI(B), below, injection site pain has been linked with the buffer ingredients used in Humira®. These buffers were present in the Humira® formulation itself, but also in the placebo formulations used in the trials.¹ That

¹ Fischkoff disclosed a placebo-controlled study of adalimumab (D2E7) which describes the placebo used as "citrate-phosphate buffer without D2E7." *See* Ex.1210 ¶¶ 120. A person reading Fischkoff and the Humira® Label would

Humira® was known to be associated with injection pain was admitted in much of its marketing materials, where pain with injection was indicated as an expected side effect of Humira® on its website. *See* Ex. 1271.

29. The fact that the injection pain is attributable to the Humira® formulation is also supported by prior publications. For example, before November 2007, marketing materials for Humira® indicated that the injection of the needle may cause slight pain or stinging but that the medicine itself may cause a burning sensation. *Id.* Additionally, articles summarizing biologic drugs for the treatment of psoriasis discussed drugs which were approved for or being investigated for the treatment of psoriasis and particularly note injection site pain as a reaction to Humira® but not to other drugs. One article discussed a small number of drugs. and of those, three were administered as subcutaneous injections: Raptiva®. understand this study to be the same as "Study IV" in the Humira® Label, as both studies are reported to have analyzed 636 patients receiving adalimumab or placebo every other week for 24 weeks, both allowed for patients to continue their current therapies if the therapy was stable for at least 28 days, and both reported 53% ACR20 response to adalimumab at week 24. Compare Ex. 1205, 2, 4 with Ex. 1210 ¶¶ 116-117, 149. As such, a person reading Fischkoff and the Humira® Label would understand the placebo used in the studies in the Humira® Label to be "citrate-phosphate buffer without D2E7."

Enbrel®, and Humira®. Ex. 1282, 8. Of these three, only Humira® was reported to have injection site pain as a common adverse event. *Id.* A similar paper discussing etanercept (Enbrel®), infliximab (Remicade®), and adalimumab (Humira®) reports injection site pain only for Humira®, stating that "injection-site pain was the major side effect with the use of that agent." Ex. 1243, 8.

30. As such, it is clear that the use of Humira® was associated with injection site pain, and that the excipients in the injected product were likely responsible for increased pain.

B. Injection Site Pain Has Been Clearly Linked to the Buffers Used in Humira®

31. According to the Humira® label:

Each 0.8 mL HUMIRA contains 40 mg adalimumab, 4.93 mg sodium chloride, 0.69 mg monobasic sodium phosphate dihydrate, 1.22 mg dibasic sodium phosphate dihydrate, 0.24 mg sodium citrate, 1.04 mg citric acid monohydrate, 9.6 mg mannitol, 0.8 mg polysorbate 80 and Water for Injection, USP.

Ex. 1205, 1. As such, the 40 mg/0.8 mL formulation of Humira®, the only formulation which was available as of November 2007, contained a citrate-phosphate buffer system.

32. Certain buffers have been linked with pain on injection. For example, prior to November 2007, it was known that citrate and high concentrations of

Declaration of David D. Sherry, M.D.

Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira® acetate were painful when injected. Ex. 1241, 2:4-3:2. Indeed, this had long been known for citrate buffers specifically, which had been repeatedly linked with increased pain on injection in reports going back to at least the early 1990s. Ex. 1217, 297 ("[C]itrate is known to cause stinging upon injection."); Ex. 1221, 218 (comparing commercially-available human growth hormone formulations and concluding that the citrate-buffered product caused significantly more pain on injection than the histidine-buffered product); Ex. 1222 (demonstrating that formulations containing citrate and citrate solutions cause significantly more pain on injection than albumin solutions and saline solutions). One of these studies, in particular, showed that a subcutaneous drug's citrate buffer caused enough pain on injection that it occasionally precluded self-administration of the drug. See Ex. 1222, 553 ("[L]ocal pain at the injection site is a common adverse event. sometimes precluding self-administration. . . . " and ". . . the local pain experienced after subcutaneous administration of epoetin alfa preparations is mainly caused by the citrate component of the buffered solution.").

33. In fact, as a result of these injection pain issues, many companies attempted to develop products without using a citrate buffer. For example, U.S. Patent No. 6,696,056 discloses a motivation to develop a drug formulation without citrate, because the commercially-available formulation contained citrate and was associated with pain. Ex. 1283, 2:35-38 ("These formulations are clinically

Declaration of David D. Sherry, M.D.
Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira®
documented to commonly cause patient discomfort associated with s.c.
administration of the citrate-buffered formulations."). Further, Kaisheva disclosed that injection pain was a factor influencing the selection of a buffer component. Ex.
1220 ¶50 ("Citrate and phosphate buffers are much less preferred because [they

cause] a painful reaction when injected subcutaneously.").

While citrate specifically appears to be clearly associated with 34. increased injection site pain, high buffer capacity generally has also been linked to such pain. One study tested the pain experienced in volunteers who received injections of several formulations with different concentrations of phosphate buffer. Ex. 1219, 1013. Noting that phosphate was chosen "because citrate buffer causes pain," the study concluded that injection site pain corresponded with higher concentrations of buffer. *Id.* at 1012. As such, the study concluded that lower buffer strength generally was desirable to minimize pain in injection. *Id.* at Abstract ("[F]or subcutaneous injections at non-physiological pH, the buffer strength should be kept as low as possible to avoid pain upon injection....[A] lower buffer strength enables more rapid normalization of the pH at the injection site."). As discussed above in paragraph 32, high concentrations of acetate were also associated with pain, indicating that the concept of pain on injection with high buffer capacity formulations may be generalizable beyond phosphate. Thus, not only would a drug developer have been motivated to minimize the amount of

- 35. As such, it is my opinion that buffers, such as citrate, were associated with increased injection site pain. As a result, it would have been preferable to eliminate extraneous buffer from these formulations, or at least to minimize it, to address these injection pain issues.
 - C. There Would Have Been a Motivation to Remove or Modify the Buffers in Humira®
- 36. As discussed in Section V(A) above, my experience in prescribing Humira® shows pain to be a real and serious problem with consequences ranging from discomfort to noncompliance to the inability of the drug to be used in certain patients. As discussed in Section VI(A) above, that Humira® was associated with injection pain is clearly documented in the prior art and would have been known to those familiar with Humira® as of November 2007.
- 37. As discussed in Section V(B) above, it is my experience that the injection site pain of Humira® is not solely due to the injection of the needle, but is attributable to something in Humira® but not in other treatments such as methotrexate and Enbrel®. As discussed in paragraphs 28-30 above, the art available as of November 2007 also supports that the pain experienced upon injection of Humira® is not merely attributable to pain of the needle's penetrating the skin. It is more highly reported than other injectable treatments. As such, those

Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira® familiar with Humira® as of November 2007 would have suspected that something about the formulation of Humira® itself was responsible for the increased pain in Humira®.

- 38. As discussed in Section VI(B) above, it was known in the art that citrate and other buffers were associated with increased pain. As Humira® was known to contain citrate buffer, those familiar with Humira® as of November 2007 would have been motivated to create a different formulation without citrate (or any extraneous buffer), just as described in the '619 patent.
- associated with Humira® to remove the citrate buffer from the formulation. In applying to the FDA for approval of a new formulation of Humira®, AbbVie's rationale was in part that "the new formulation may contribute to increased patient comfort through less injection-related pain based on reduced injection volume *and removal of some of the excipients in the currently marketed formulation that may contribute to pain sensation.*" Ex. 1284, 3. Specifically, Abbvie explains that the formulation does not contain sodium chloride, sodium citrate, disodium phosphate dehydrate, and sodium dihydrogen phosphate dehydrate, leaving only mannitol and polysorbate 80 as excipients from the original formulation. *Id.* at 5. Of the components that had been eliminated, it would have been recognized that sodium

Declaration of David D. Sherry, M.D. Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira® chloride was unlikely to contribute to injection pain, inasmuch as many injectable drugs had been formulated in saline solution.

- 40. Similarly, a published study involving this new formulation designed and funded by AbbVie discussed that the new formulation "was developed to address pain associated with injection," where injection site reactions including pain were acknowledged as the most common adverse event reported in Humira®. Ex. 1285, 258. The publication specifically explained that such pain "can be influenced by various factors, including the inactive ingredients of the formulation (e.g., citrate buffer)...." *Id.* Finally, the publication explained that the new formulation had fewer ingredients, and that "particularly, there is no citrate buffer." *Id.*
- 41. It is my opinion that as of November 2007, there would have been motivation to remove or replace the buffer system used in Humira®.

VII. CROSS EXAMINATION AND OATH

42. I recognize that this declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross examination in the case and that cross examination will take place within the United States. If cross examination is required of me, I will appear for cross examination within the United States during the allotted time for cross examination.

Declaration of David D. Sherry, M.D. Obviousness Over (1) Humira®, Fransson & Gokarn '011; (2) Gokarn '011 & Humira®

43. All statements made herein are of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that will false statements and the like so made are punishable by fine or imprisonment or both under 18 USC § 1001.

Dated: 30 JW 2017

David D. Sherry, M.D.

APPENDIX A - LIST OF EXHIBITS CONSIDERED

Exhibit No.	Document
1201	U.S. Patent No. 9,085,619, Fraunhofer et al.
1205	HUMIRA® Label (Jan. 2003)
1206	HUMIRA® Label (Jan. 2008)
1210	U.S. Pub. No. 2003/0206898, Fischkoff et al.
1217	Gokarn et al., "Excipients for Protein Drugs," Ch. 17 in Excipient Development for Pharmaceutical, Biotechnology, and Drug Delivery Systems (Ashok Katdare & Mahesh V. Chaubal eds., 2006)
1219	Fransson & Espander-Jansson, "Local Tolerance of Subcutaneous Injections," J. Pharm. Pharmacol., 48:1012-1015 (1996)
1220	U.S. Pub. No. 2003/0138417, Kaisheva et al.
1221	Laursen et al., "Pain Perception after Subcutaneous Injections of Media Containing Different Buffers," Basic & Clinical Pharmacology & Toxicology, 98:218–221 (2006)
1222	Frenken et al., "Identification of the Component Part in an Epoetin Alfa Preparation that Causes Pain after Subcutaneous Injection," American J. of Kidney Diseases, 22(4): 553–556 (1993)
1241	WO 2006/138181, Gokarn et al. (filed as PCT/US2006/022599)
1243	Gottlieb, "Efficacy and Safety of Anti-TNF-α Agents in Psoriasis," in Anti-TNF-α Therapies in the Treatment of Dermatologic Diseases at 6 (2005) (Supplement to Skin & Allergy News; Produced in Affiliation with the Skin Disease Education Foundation's 29 th Annual Hawaii Dermatology Seminar)
1251	HUMIRA® Label (Nov. 2015)
1271	"Injection Tips," Humira.com, http://www.humira.com/hu/hu store/cgi-bin/ProdSubEV_Cat_205043_SubCat_210170_NavRoot_205042_NavID_301.htm [http://web.archive.org/web/20050317083331/http://www.humira.com/hu/hustore/cgi-bin/ProdSubEV_Cat_205043_SubCat_210170_NavRoot_205042_NavID_301.htm (Archived Mar. 17, 2005)
1273	van de Putte, et al., A Single Dose Placebo Controlled Phase I Study of the Fully Human Anti-TNF Antibody D2E7 in Patients with Rheumatoid Arthritis, Arthritis Rheum., 41(9), S57 (September 1998).

1274	HUMIRA® Label (Oct. 2005)
1275	HUMIRA® Label (Feb. 2008)
1276	HUMIRA® Label (Feb. 2007)
1277	HUMIRA® Label (Nov. 2006)
1278	Meadows & Hollowell, "'Off-label' drug use: an FDA Regulatory Term, Not a Negative Implication of Its Medical Use," Int'l J. Impotence Research 20:135-144 (2008)
1279	ENBREL® Label (Sept. 2002)
1280	ENBREL® Label (Nov. 1998)
1281	REMICADE® Label (Aug. 1998)
1282	Tsourounis, Biologic Therapies for the Treatment of Chronic Plaque Psoriasis, Formulary 40:184-199 (June 2005)
1283	U.S. Patent No. 6,696,056, Cheung et al.
1284	"Summary Review for Regulatory Action," by Sarah Yim, Division of Pulmonary, Allergy, and Rheumatology Products (U.S. Food & Drug Administration), of Humira® (2015)
1285	Nash, Randomized Crossover Comparison of Injection Site Pain with 40 mg/0.4 or 0.8 mL Formulations of Adalimumab in Patients with Rheumatoid Arthritis, Rhematol Ther 3:257-270 (2016)

EXHIBIT A

THE CHILDREN'S HOSPITAL OF PHILADELPHIA & THE UNIVERSITY OF PENNSYLVANIA

Curriculum Vitae

Date: July 2016

David Dan Sherry, M.D.

Office Address: Division of Rheumatology

10th Floor, Colket

3415 Civic Center Blvd. Philadelphia, PA 19104

Personal Married: Coleen Donohoe 1973

Son: Xander 1977 Daughters: Grahame 1979

> Rose 1983 Molly 1986 Grace 1989

Education:

Pregraduate Training:

1970-74 no degree Texas Tech University, Lubbock

Texas

1974-77 M.D. Texas Tech University School of

Medicine, Lubbock, Texas

Postgraduate Training and Fellowship Appointments:

1977-78 Internship, Pediatrics: Duke University Medical

Center, Durham, North Carolina

1978-80 Residency, Pediatrics: Duke University Medical

Center, Durham, North Carolina

1980-82 Fellowship, Pediatric Rheumatology: University of

British Columbia, British Columbia, Canada

Faculty Appointments:

1982-84 Assistant Clinical Professor of Pediatrics,

University of Southern California, Los Angeles,

California

1984-91 Assistant Professor of Pediatrics, University of

Washington, Seattle, Washington

1991-2002 Associate Professor of Pediatrics, University of

Washington, Seattle, Washington

2002- Professor of Pediatrics, University of Washington,

Seattle, Washington

2002 – present Professor of Pediatrics at The Children's Hospital of

Philadelphia, Perelman School of Medicine at the

University of Pennsylvania, Philadelphia,

Pennsylvania

<u>Hospital and Administrative Appointments:</u>

1982-84 Full-time Staff, Division of Rheumatology and

Rehabilitation, Childrens Hospital of Los Angeles,

Los Angeles, California

1984-2002 Full-time Staff, Director of Pediatric

Rheumatology, Children's Hospital & Regional

Medical Center, Seattle, Washington

2002 - present Full time Staff, Chief Rheumatology Section, The

Children's Hospital of Philadelphia, Philadelphia,

Pennsylvania

Specialty Certification:

1979 National Boards, #191151

1981 Pediatrics, #131939

1992, 1999, 2006 Pediatric Rheumatology, #043160

Licensure: North Carolina, 1979, 23971 (expired)

California, 1982, #G47407 (expired) Washington, 1984, # 21711 (expired) Alaska, 1998, # 3859 (expired)

Pennsylvania 2002, #MD419759

DEA, # AS1597181

Awards, Honors and Membership in Honorary Societies:

1977	West Texas Children's Foundation Award
1977	Merck Award
1997	Pediatric Resident's Outstanding Teacher
1998	Thank You Award, Boeing Employees Community Fund
2001	Medical Staff Caring for Children Award
2001, 2002	Top Doctor in Seattle
2002	Family-Centered Care Recognition Award
2001-2014	Top Doctor in America
2004-2014	Top Doctor in Philadelphia
2002-2003	ACR/REF/Amgen Visiting Pediatric Rheumatologist
	Award
2006	University of Pennsylvania Blockley-Osler Clinical
	Teaching Award
2007	Arthritis Foundation Quality of Life – Patient and

Community Services Award

Philadelphia 2009 American Academia of Pediatrics James T. Cassidy Award 2014 ACR/REF/Amgen Visiting Pediatric Rheumatologist Award 2014 ACR Distinguished Fellowship Program Director Award	2008	Master Clinician Award, Children's Hospital of
ACR/REF/Amgen Visiting Pediatric Rheumatologist Award		Philadelphia
Award	2009	American Academia of Pediatrics James T. Cassidy Award
	2014	ACR/REF/Amgen Visiting Pediatric Rheumatologist
ACR Distinguished Fellowship Program Director Award		Award
	2014	ACR Distinguished Fellowship Program Director Award

Membership in Professional and Scientific Societies:

National Societies:

American College of Rheumatology (Fellow)

National Committees:

Executive Committee, Rheumatology Section, American Academy of Pediatrics, 1988 – 1991

Executive Committee, Pediatrics Section, American College of Rheumatology, 1996 – 2000

American Board of Pediatrics, Rheumatology Sub-board member, 2000 – 2005, Chairman, 2003-2005

American Board of Pediatrics, Rheumatology Sub-board medical editor, 2006- present

Co-chairman, Abstract selection committee, American College of Rheumatology 1999-2000

Chairman, Abstract selection committee, American College of Rheumatology 2000-2001

Member, Planning and Meeting Committee, American College of Rheumatology 2000-2003

Member, American Pain Society, Guidelines Committee for Arthritis Pain 2000-2002

Executive Committee Member, Spondyloarthropathy Association of American, 2000 – 2003

Local Committees:

Councilor, Northwest Rheumatism Society 1988-1990

Faculty Advisor for Resident Clinical Pathologic Conferences 1993-1996

Faculty Senator for Department of Pediatrics, 1996 - 1998

Member, Institutional Review Board 1998-2000

Editorial Positions:

Pediatric Rheumatology for emedicine.com Journal of Pediatric Rehabilitation Medicine Pediatric Clinics of North America, Pediatric Rheumatology Edition, April 2012 with Ron Laxer

Major Teaching and Clinical Responsibilities:

Primary clinical mentor for Pediatric Rheumatology fellows (Esi DeWitt, MD 2002-2005, Frank Pessler, MD, PhD, 2003-2006, Bita Arabshahi, MD, 2003-2006, Edward Behrens, MD, 2004-2007, Timothy Beukelman, MD,

2004-2007, Pamela Weiss, MD 2005-2008, Tracey Wright, MD, 2005-2008, Eric Hanson, MD, 2005-2009, Sharon Bout-Tabaku, MD, 2006-2009, Jay Mehta, MD, 2006-2009, Scott Lieberman, MD, PhD, 2007-2010, William Bernal, MD, MPH, 2007-2010, Melissa Lerman, MD, PhD, 2008-2011, Homaira Rahimi, 2008-2011, Scott Canna, MD, 2009-2012, Cara Hoffart, DO, 2009 – 2012, Andrea Knight, MD 2010-2013, Melissa Mizesko, MD, 2010-2012, Lehn Weaver, MD, PhD, 2011- present, Yongdong Zhao, MD, PhD, 2011-2013, Elaine Ramsay, MD 2012-present, Alysha Taxter 2012-present, Karen James, MD 2013-present, Matthew Basiaga, DO 2013-present)

Recent (last 5 years) Continuing Medical Education given (excluding National & International invited lectures):

Group Health Cooperative, Primary Care Sports Medicine, Don't get Burnt: Usual Symptoms, Unusual Diseases

Pacific Northwest Dermatological Society, Pediatric Symposium, Whistler, British Columbia, May 1999, Rheumatic Skin Manifestations and Treatment

Group Health Spondylitis Support Group, Seattle, May 1999, Spondylitis in Children

Pediatrics in the Northwest, Seattle, August 1999, Rheumatology Referrals: When to Hold'en, When to Fold'em

2nd Annual Emergency Services Conference, Marysville, WA October 1999, Musculoskeletal Pains in Children: What You Don't Want to Miss

Olympia Pediatric Journal Club, Olympia, Washington, December 1999

Management of Chronic Pain with a Podiartic Emphasis Seminar, Seattle, December, 1999, Pain Amplification in Children

Current Concepts in Drug Therapy, University of Washington, Seattle, November 2000 Intraarticular Corticosteroids

T.L. Staheli Pediatric Orthopedic Seminar –2001, January, 2001, Not all Bone and Join Pain is Orthopedic

American Juvenile Arthritis Organization, Seton Hall, NJ, March 2004 New Options for Treating Rheumatic Disorders in Children

The Children's Hospital of Philadelphia, CPC Grand Rounds, May 2004, FUO Arthritis Foundation, December, 2007, Pain Management

Arthritis Foundation Family Day, April 2008, Complementary and Alternative Treatments in Childhood Rheumatic Diseases

Pediatric Rheumatology for Orthopedics, September 2009, CHOP

<u>Lectures by Invitation</u> (past 7 years):

March 2006	Visiting Professor, St. Peter's Hospital, New Brunswick, New Jersey
April 2006	Kid's Stuff, America College of Rheumatology State of the Art Fellow's meeting. Chicago
April 2006	Complementary and Alternative Medicine in Pediatric Rheumatic Illness, Arthritis Foundation Family Day.

	Philadelphia, Pennsylvania
May 2006	Juvenile Rheumatoid Arthritis, Chronic Illness in Teens, FAB For Teens, About Teens, By Teens, West Orange, New Jersey
May 2006	Linking Pain to Mobility, World Federation of Hemophilia Congress, Vancouver, British Columbia
May 2006	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Rheumatology Grand Rounds, Einstein Medical Center, Philadelphia, Pennsylvania
June 2006	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Pediatric Grand Rounds Mayo Clinic, Rochester, Minnesota
June 2006	Northwestern Pediatric Society Lecture: Amplified Musculoskeletal Pain in Children – When Children Hurt Too Much, Topics and Advances in Pediatrics, University of Minnesota, Minneapolis, Minnesota
July 2006	Musculoskeletal Pain in Children with Marfan syndrome, workshop. National Marfan's Association Meeting, Philadelphia, Pennsylvania
Sept 2006	Amplified Pain: When it Hurts Too Much!, Pediatric Refresher Course, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
Oct 2006	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Pediatric Rheumatology for the Practitioner, New Brunswick, New Jersey
Nov 2006	The Role of the Pediatric Rheumatology Team in Improving the Quality of Life in Children with Arthritis, Association of Rheumatology Health Professionals, Annul Meeting, Washington, DC
Nov 2006	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Pediatric Grand Rounds Einstein Medical Center, Philadelphia, Pennsylvania.
Feb 2007	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Pediatric Anesthesia Rounds, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
April 2007	Pharmacological Issues in Rheumatology, Nurse Practitioners, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
April 2007	Therapy and Emerging Therapy for Juvenile Idiopathic Arthritis in Children, Arthritis Foundation Family Day, Philadelphia, Pennsylvania

May 2007	The Philly Way. CRPS workshop, Stanford, Pala Alto, California
June 2007	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Rheumatology Grand Rounds, Hospital for Special Surgery, New York
June 2007	X-Files in Rheumatology. Pediatric Grand Rounds, Mt. Sinai Medical Center, New York
June 2007	Amplified Musculoskeletal Pain In Sports. Sport and Rheuma bei Kindern. Garmisch-Partenkirchen, Germany
June 2007	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Pediatric Grand Rounds, The Medical University of Graz, Graz, Austria.
July 2007	Pain and Pain Management in Juvenile Idiopathic Arthritis, American Juvenile Arthritis Organization, National Meeting, Hershey, PA
October 2007	Pediatric Rheumatology Problems for Rheumatologists, X-files of Pediatric Rheumatology, Amplified Musculoskeletal Pain in Children, Norwegian Pediatric Society, Norway
October 2007	Fibromyalgia and other Amplified Pains, North American Society of Pediatric Gastroenterology, Hepatology and Nutrition, National Meeting, Salt Lake City
November 2007	Difficult Complex Regional Pain Syndrome, American College of Rheumatology, National Meeting, Boston
January 2008	Amplified Musculoskeletal Pain Syndromes in Children, Pain Management and Physical Activity in Pediatrics, Hindsgavl Slot, Denmark.
May 2008	X-files from the Rheumatology Clinic, Resident conference, University of Alabama, Birmingham
May 2008	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Pediatric Grand Rounds, University of Alabama, Birmingham
June 2008	Amplified Musculoskeletal Pain in Children – When it Hurts Too Much, Pediatric Grand Rounds, New York University, New York
May 2009	Chronic Pain Syndromes in Children. 10 th Annual Advance Practice Nurse Conference, Philadelphia
May 2009	Amplified Musculoskeletal Pain in Children, Henoch- Schönlein Purpura, Systemic Lupus Erythematosus & Juvenile Idiopathic Arthritis, American Academy of Pediatrics, Practical Pediatrics CME Course, Seattle

September 2010	Amplified Pain in Children. Anesthesiology Grand Rounds, Hershey, Pennsylvania
June 2011	Pediatric Rheumatology Objective Structured Clinical Evaluation. Pediatric Rheumatology Symposium, Miami
October 2011	Problems Pediatric Rheumatology. Bone Health Conference, Children's Hospital of Philadelphia
January 2012	Amplified Pain in Children. Anesthesia didactics, Children's Hospital of Philadelphia
February 2012	Henoch Schönlein Purpura. Rheumatology Grand Rounds, Children's Hospital of Philadelphia
March 2012	Idiopathic Pain Amplification Syndrome in Children, NYU 3 rd Annual Pediatric Rheumatology Update for Clinicians, New York City
January 2013	Amplified Pain in Children, Grand Rounds, Montefiore, New York
April 2013	Amplified Pain Syndromes, When it Hurts too Much. Columbia University, Grand Rounds, New York
April 2013	Amplified Pain, When it is and When it Isn't. American College of Rheumatology, State of the Art Meeting, Chicago
April 2013	Pediatric Rheumatology for Adult Rheumatologists. American College of Rheumatology, State of the Art Meeting, Chicago
May 2013	CSL Behring Visiting Professor, AI DuPont Children's Hospital, Wilmington, DE
September 2013	Amplified Musculoskeletal Pain Syndromes. James T Cassidy Lectureship, Columbia Mo
October 2013	Amplified Musculoskeletal Pain. Grand Rounds and visiting professor, SickKids, Toronto, On
August 2014	Amplified Pain. Colombia Rheumatology Annual Meeting
August 2014	Amplified Pain in Children. Grand Rounds, Texas Children's Hospital, Houston, Texas
September 2014	Lupus, Peking Union College Medical Hospital, Beijing, China
September 2014	Amplified Pain in Children. Chinese Pediatric Society Annual Meeting, Chongqing, China
October 2014	Complex regional pain syndrome, American College of Rheumatology, Annual Meeting, Boston

Bibliography:

- 1. Sherry DD, Paterson MSW, Petty RE. The use of indomethacin in treatment of pericarditis in childhood. *J Pediatr* 1982; 100:995-998
- 2. Sherry DD, Rothstein R, Petty RE. Joint contractures preceding insulin dependent diabetes mellitus. *Arthritis Rheum* 1982;25: 1362-1364
- 3. Sherry DD, Kredich DW. Transient thrombocytopenia in systemic onset juvenile rheumatoid arthritis. *Pediatrics* 1985;76:600-603
- 4. Sherry DD, Treadwell S, Schroeder ML, Petty RE. Histocompatibility antigens in Osgood-Schlatter's disease. *J Pediatr Orthop* 1985;5:302-305
- 5. Petty RE, Sherry DD, Johannson J. Anti-IgA antibodies in pregnancy. *N Engl J Med* 1985;313:1620-1625
- 6. Petty RE, Sherry DD, Johannson J. IgA anti-IgA2 antibodies: Their measurement by an enzyme-linked immunosorbent assay and their relationship to disease. *Int Arch Aller Appl Immun* 1986;80:337-341
- 7. Kovalesky A, Sherry DD, Lehman TJA. The use of lidocaine to reduce the pain of myochrysine injections for children with juvenile rheumatoid arthritis. *J Rheumatol* 1986;13:356-357
- 8. Sherry DD, Weisman R. Psychological aspects of childhood reflex neurovascular dystrophy. *Pediatrics* 1988;81:572-578
- 9. Wallace CA, Bleyer WA, Sherry DD, Salmonson K, Wedgwood RJ. Toxicity and serum methotrexate levels in juvenile rheumatoid arthritis, *Arthritis Rheum* 1989;32:677-681
- Lehman TJA, Sherry DD, Wagner-Weiner L, McCurdy DK, Emery HM, Magilavy DB, Kovalesky A. Intermittent intravenous cyclophosphamide therapy of lupus nephritis. J Pediatr 1989; 114:1055-1060
- 11. Sherry DD, Bohnsack J, Salmonson K, Wallace CA, Mellins E. Painless juvenile rheumatoid arthritis. *J Pediatr* 1990;116: 921-923
- 12. Libby AK, Sherry DD, Dudgeon BJ. Shoulder limitation in juvenile rheumatoid arthritis. *Arch Phys Med Rehabil* 1991;72:382-384
- 13. Rider LG, Sherry DD, Glass ST. Transient myasthenia gravis presenting as neonatal lupus erythematosus. *J Pediatr* 1991;118:417-419
- 14. Sherry DD, McGuire T, Salmonson K, Wallace CA, Mellins E, Nepom B. Psychosomatic musculoskeletal pain in childhood: clinical and psychological analysis of one hundred children. *Pediatrics* 1991;88:1093-1099
- 15. Rider LG, Mendelman PM, French J, Sherry DD. Group A streptococcal infection and Kawasaki syndrome. *Lancet* 1991;337:1100-1101.
- 16. Sherry DD, Mellins EM, Wedgwood RJ. Decreasing severity of chronic uveitis in children with pauciarticular arthritis. *Am J Dis Child* 1991;145:1026-1028
- 17. Wallace CA, Sherry DD. Preliminary report of higher dose of methotrexate treatment in juvenile rheumatoid arthritis. *J Rheumatol* 1992;19:1604-1607
- 18. Wallace CA, Sherry DD, Mellins ED. Aiken RP. Predicting remission in juvenile rheumatoid arthritis with methotrexate treatment. *J Rheumatol* 1993;20:118-122
- 19. Sherry DD, Haas JE, Milstein JM. Polymyositis in a child as a paraneoplastic phenomenon. *Pediatr Neurol* 1993;9:155-156
- 20. Graf WD, Sherry DD, Milstein JM. Stroke and mixed connective tissue disease. J Child

- Neurol 1993;8:256-259
- 21. Wallace CA, Smith AL, Sherry DD. Pilot investigation of naproxen/methotrexate interaction in patients with juvenile rheumatoid arthritis. *J Rheumatol* 1993;20:1764-1768
- 22. Rider LG, Buyon JP, Rutledge J, Sherry DD. Treatment of neonatal lupus: Case report and review of the literature. *J Rheumatol* 1993;20:1208-1211
- 23. Rider LG, Wener MH, French J, Sherry DD, Mendelman PM. Autoantibody production in Kawasaki syndrome. *Clin Exp Rheumatol* 1993;11:445-449
- 24. Levine JJ, Sherry DD, Strickland DK, Ilowite NT. Intraarticular alpha 2-macroglobulin complexes and proteolytic activity in children with juvenile rheumatoid arthritis. *Pediatr Res* 1993;34:204-207
- 25. Rider LG, Miller FW, Targoff IN, Sherry DD, Samayoa E, Lindahl M, Wener MH, Pachman LM, Plotz PH. A broadened spectrum of juvenile myositis: Myositis-specific autoantibodies in children. *Arthritis Rheum* 1994;37:1534-1538
- 26. Wallace CA, Farrow D, Sherry DD. Increased risk of facial scars in children taking non-steroidal anti-inflammatory drugs. *J Pediatr* 1994;125:819-822
- 27. Kahn SJ, Sherry DD. Kienbock's disease, avascular necrosis of the carpal lunate bone, in a 7-year old girl with dermatomyositis. *Clin Pediatr* 1994;33:752-754
- 28. Cron RQ, Sherry DD. Reiter's syndrome associated with cryptosporidial gastroenteritis. *J Rheumatol* 1995;22:1962-1963
- 29. Bauman C, Cron RQ, Sherry DD, Francis J. Reiter syndrome initially misdiagnosed as Kawasaki disease. *J Pediatr* 1996;128:366-369
- 30. Sherry DD, Wallace CA, Kahn SJ. Pediatric rheumatology in adult rheumatology practices in Washington state. *Arthritis Rheum* 1996;39:1218-1221
- 31. Wallace CA, Sherry DD. Trial of intravenous pulse cyclophosphamide and methylprednisolone in the treatment of severe systemic-onset juvenile rheumatoid arthritis. *Arthritis Rheum* 1997;40:1852-1855
- 32. Seely JM, Jones LT, Wallace C, Sherry D, Effmann EL. Systemic sclerosis: Using high-resolution CT to detect lung disease in children. *Am J Radiol* 1998;170:691-697
- 33. Cron RQ, Sherry DD, Wallace CA. Methotrexate-induced hypersensitivity pneumonitis in a child with juvenile rheumatoid arthritis. *J Pediatr* 1998;132:901-902
- 34. Weiss AH, Wallace CA, Sherry DD. Methotrexate for resistant chronic uveitis in children with juvenile rheumatoid arthritis. *J Pedia*tr 1998;133:177-180
- 35. Cron RQ, Sharma S, Sherry DD. Current treatment by American and Canadian pediatric rheumatologists. *J Rheumatol* 1999;26:2036
- 36. Sharma S, Sherry DD. Joint distribution at presentation in children with pauciarticular arthritis. *J Pediatr* 1999;134:642-643
- 37. Sherry DD, Wallace CA, Kelley C, Kidder M, Sapp L. Short and long term outcome of children with complex regional pain syndrome type I treated with exercise therapy. *Clin J Pain* 1999;15:218-223
- 38. Sherry DD, Stein LD, Reed AM, Schanberg LE, Kredich DW. Prevention of leg length discrepancy in young children with pauciarticular juvenile rheumatoid arthritis by treatment with intraarticular steroids. *Arthritis Rheum* 1999;42:2330-2334
- 39. Read RW, Weiss AH, Sherry DD. Episcleritis in childhood. *Ophthalmology* 1999:106:2377-2379
- 40. Wallace CA, French JW, Kahn SJ, Sherry DD. Initial intravenous gammaglobulin

- treatment failure in Kawasaki disease *Pediatrics 2000;105:e78* http://www.pediatrics.org/cgi/content/full/105/6/e78
- 41. Brace MJ, Smith MS, McCauley E, Sherry DD. Family reinforcement of illness behavior: A comparison of adolescents with chronic fatigue syndrome, juvenile arthritis, and health controls. *J Develop Behav Pediatr* 2000;21:332-339
- 42. Sherry DD, Sapp L. Enthesalgia in childhood: Site-specific tenderness in healthy subjects and in patients with seronegative enthesopathic arthropathy. *J Rheumatol* 2003;30:1335-1340
- 43. Wong S, Pollock AN, Burnham JM, Sherry DD, Dlugos DJ. Acute cerebellar ataxia due to Sjögren syndrome. *Neurol* 2004;62:2332-2333
- 44. Dewitt EM, Sherry DD, Cron RQ. Pediatric rheumatology for the adult rheumatologist I: therapy and dosing for pediatric rheumatic disorders. *J. Clin. Rheumatol.* 2005;11:21-33.
- 45. Logan DE, Guite JW, Sherry DD, Rose JB. Adolescent-Parent relationships in the context of adolescent chronic pain conditions. *Clin J Pain*, 2006;22:576-583
- 46. Arabshahi B, Pollock AN, Sherry DD, Albert DA, Kreiger PA, Pessler F. Devic disease in a child with primary Sjogren syndrome. *J Child Neurology*. 2006;21:285-26
- 47. Bleesing J, Prada A, Siegel DM, Villanueva J, Olson J, Ilowite NT, Brunner HI, Griffin T, Graham TB, Sherry DD, Passo MH, Ramanan AV, Filipovich A, Grom AA. The diagnostic significance of soluble CD163 and soluble interleukin-2 receptor alpha-chain in macrophage activation syndrome and untreated new-onset systemic juvenile idiopathic arthritis. *Arthritis Rheum*, 2007;56:965-971.
- 48. Pessler F, Paessler M, Lambert M, Morgan-DeWitt E, Albert D, Sherry, D.D. Polyarthritis in a child with Rosai-Dorfman disease. *Clin Exp Rheum*. 2007:25:645-648
- 49. Guite JW, Logan DE, Sherry DD, Rose JB. Adolescent self-perception: Associations with chronic musculoskeletal pain and functional disability. *J Pain*, 2007;8,379-386.
- 50. Beukelman T, Guevara JP, Albert DA, Sherry DD, Burnham JM. Variation in the initial treatment of knee monoarthritis in juvenile idiopathic arthritis: a survey of pediatric rheumatologists in the United States and Canada. *J Rheumatol* 2007;34:1918-1924
- 51. Bleesing J, Prada A, Siegel DM, Villanueva J, Olson J, Ilowite NT, Brunner HI, Griffin T, Graham TB, Sherry DD, Passo MH, Ramanan AV, Filipovich A, Grom AA. The diagnostic significance of soluble CD163 and soluble interleukin-2 receptor alpha-chain in macrophage activation syndrome and untreated new-onset systemic juvenile idiopathic arthritis. *Arthritis Rheum* 2007;56:965-971.
- 52. Fall N, Barnes M, Thornton S, Luyrink L, Olson J, Ilowite NT, Gottlieb BS, Griffin T, Sherry DD, Thompson S, Glass DN, Colbert RA, Grom AA. Gene expression profiling of peripheral blood from patients with untreated new-onset systemic juvenile idiopathic arthritis reveals molecular heterogeneity that may predict macrophage activation syndrome. *Arthritis Rheum* 2007;56:3793-3804
- 53. Sherry DD Avoiding the impact of musculoskeletal pain on quality of life in children with hemophilia. *Orthop Nurs* 2008;27:103-108
- 54. Beukelman T, Guevara JP, Albert DA, Sherry DD, Burnham JM. Usage of intra-articular corticosteroid injections for the treatment of juvenile idiopathic arthritis: a survey of pediatric rheumatologists in the United States and Canada. *Clin Exp Rheum* 2008;26:700-703
- 55. Sherry DD. Amplified musculoskeletal pain: treatment, approach and outcomes. *J Pediatr Gastroenterol Nutr* 2008;47:693-694

- 56. Schanberg LE, Sandborg C, Barnhart HX, Ardoin SP, Yow E, Evans GW, Mieszkalski KL, Ilowite NT, Eberhard A, Levy DM, Kimura Y, von Scheven E, Silverman E, Bowyer SL, Punaro L, Singer NG, Sherry DD, McCurdy D, Klein-Gitelman M, Wallace C, Silver R, Wagner-Weiner L, Higgins GC, Brunner HI, Jung L, Soep JB, Reed A; Atherosclerosis Prevention in Pediatric Lupus Erythematosus Investigators. Premature atherosclerosis in pediatric systemic lupus erythematosus: Risk factors for increased carotid intima-media thickness in the atherosclerosis prevention in pediatric lupus erythematosus cohort. *Arthritis Rheum*. 2009;60:1496-507.
- 57. Guite JW, Logan DE, McCue R, Sherry DD, Rose JB. Parental beliefs and worries regarding adolescent chronic pain. *Clin J Pain*. 2009 Mar-Apr;25(3):223-32.
- 58. Mamyrova G, O'Hanlon TP, Sillers L, Malley K, James-Newton L, Parks CG, Cooper GS, Pandey JP, Miller FW, Rider LG; Childhood Myositis Heterogeneity Collaborative Study Group. Cytokine gene polymorphisms as risk and severity factors for juvenile dermatomyositis. *Arthritis Rheum.* 2008 Dec;58(12):3941-50.
- 59. Barnes MG, Grom AA, Thompson SD, Griffin TA, Pavlidis P, Itert L, Fall N, Sowders DP, Hinze CH, Aronow BJ, Luyrink LK, Srivastava S, Ilowite NT, Gottlieb BS, Olson JC, Sherry DD, Glass DN, Colbert RA. Subtype-specific peripheral blood gene expression profiles in recent-onset juvenile idiopathic arthritis. *Arthritis Rheum*. 2009;60:2102-12.
- 60. Griffin TA, Barnes MG, Ilowite NT, Olson JC, Sherry DD, Gottlieb BS, Aronow BJ, Pavlidis P, Hinze CH, Thornton S, Thompson SD, Grom AA, Colbert RA, Glass DN. Gene expression signatures in polyarticular juvenile idiopathic arthritis demonstrate disease heterogeneity and offer a molecular classification of disease subsets. *Arthritis Rheum.* 2009;60:2113-23
- 61. Lieberman SM, Sherry DD. Development of classic dermatomyositis rash years after diagnosis of juvenile polymyositis. *J Clin Rheumatol*. 2009;15:316-8
- 62. Becker ML, Rosé CD, Cron RQ, Sherry DD, Bilker WB, Lautenbach E. Effectiveness and toxicity of methotrexate in juvenile idiopathic arthritis: comparison of 2 initial dosing regimens. *J Rheumatol* 2010;37:870-5
- 63. Hoffart C, Sherry DD. Early identification of juvenile idiopathic arthritis. *J Musculoskel Med.* 2010, 27(2): 52-56.
- 64. Hoffart C, Sherry DD. More aggressive treatment for juvenile idiopathic arthritis. *J Musculoskel Med.* 2010, 27(3): 106-108
- 65. Rider LG, Wu L, Mamyrova G, Targoff IN, Miller FW; Childhood Myositis Heterogeneity Collaborative Study Group. Environmental factors preceding illness onset differ in phenotypes of the juvenile idiopathic inflammatory myopathies. *Rheumatology* (Oxford). 2010 Dec;49(12):2381-90
- 66. Ardoin SP, Schanberg LE, Sandborg C, Yow E, Barnhart HX, Mieszkalski K, Ilowite NT, von Scheven E, Eberhard A, Levy DM, Kimura Y, Silverman E, Bowyer SL, Punaro L, Singer NG, Sherry DD, McCurdy D, Klein-Gitelman M, Wallace C, Silver R, Wagner-Weiner L, Higgins GC, Brunner HI, Jung LK, Imundo L, Soep JB, Reed AM, APPLE investigators. Laboratory markers of cardiovascular risk in pediatric SLE: the APPLE baseline cohort. *Lupus* 2010;19(11):1315-25.
- 67. Möller JC, Cron RQ, Young DW, Girschick HJ, Levy DM, Sherry DD, Kukita A, Saijo K, Pessler F. Corticosteroid-induced spinal epidural lipomatosis in the pediatric age group: report of a new case and updated analysis of the literature. *Pediatric*

- Rheumatology 2011, 9:5 doi:10.1186/1546-0096-9-5
- 68. Guite JW, McCue RL, Sherker JL, Sherry DD, Rose JB Relationships among pain, protective parental responses, and disability for adolescents with chronic musculoskeletal pain: the mediating role of pain catastrophizing. *Clin J Pain* 2011 Nov-Dec;27(9):775-81. doi: 10.1097/AJP.0b013e31821d8fb4..
- 69. Weiss PF, Klink AJ, Behrens EM, Sherry DD, Finkel TH, Feudtner C, Keren R. Enthesitis in an inception cohort of enthesitis-related arthritis. *Arthritis care & research*. 2011;63(9):1307-12.
- 70. Boyne K, Sherry DD, Gallagher PR, Olsen M, Brooks LJ. Accuracy of computer algorithms and the human eye in scoring actigraphy. *Sleep Breath*. 2012 May 13
- 71. Sherry DD. Physical activity levels in the treatment of juvenile fibromyalgia. *Nat Rev Rheumatol.* 2013 Jan;9(1):8-9. doi: 10.1038/nrrheum.2012.193. Epub 2012 Nov 13
- 72. Woolston SL, Beukelman T, Sherry DD. Back mobility and intercisional distance in racially diverse North American healthy children and relationship to generalized hypermobility *Pediatric Rheumatology* 2012, 10:17 doi:10.1186/1546-0096-10-17
- 73. Ardoin SP, Schanberg LE, Sandborg CI, Barnhart HX, Evans GW, Yow E, Mieszkalski KL, Ilowite NT, Eberhard A, Imundo LF, Kimura Y, Levy D, von Scheven E, Silverman E, Bowyer SL, Punaro L, Singer NG, Sherry DD, McCurdy DK, Klein-Gitelman M, Wallace C, Silver RM, Wagner-Weiner L, Higgins GC, Brunner HI, Jung L, Soep JB, Reed AM, Thompson SD; APPLE investigators. Secondary analysis of APPLE study suggests atorvastatin may reduce atherosclerosis progression in pubertal lupus patients with higher C reactive protein. *Ann Rheum Dis.* 2014 Mar 1;73(3):557-66. doi: 10.1136/annrheumdis-2012-202315. Epub 2013 Feb 22.
- 74. Mamyrova G, Katz JD, Jones RV, Targoff IN, Lachenbruch PA, Jones OY, Miller FW, Rider LG; Childhood Myositis Heterogeneity Collaborative Study Group. Clinical and laboratory features distinguishing juvenile polymyositis and muscular dystrophy. *Arthritis Care Res* (Hoboken). 2013 Dec;65(12):1969-75. doi: 10.1002/acr.22088
- 75. Olsen MN, Sherry DD, Boyne K, McCue R, Gallagher PR, Brooks LJ. Relationship between sleep and pain in adolescents with juvenile primary fibromyalgia syndrome. *Sleep* 2013;36(4):509-516.
- 76. Guite JW, Kim S, Chen C-P, Sherker JL, Sherry DD, Rose JB, Hwang W-T. Pain beliefs and readiness to change among adolescents with chronic musculoskeletal pain and their parents prior to an initial pain clinic evaluation. *Clin J Pain* 2014 Jan;30(1):27-35. doi: 10.1097/AJP.0b013e31828518e9.
- 77. Guite JW, Kim S, Chen C-P, Sherker JL, Sherry DD, Rose JB, Hwang W-T. Treatment expectations among adolescents with chronic musculoskeletal pain and their parents prior to an initial pain clinic evaluation. *Clin J Pain* 2014 Jan;30(1):17-26. doi: 10.1097/AJP.0b013e3182851735.
- 78. Shah M, Targoff IN, Rice MM, Miller FW, Rider LG; Childhood Myositis Heterogeneity Collaborative Study Group. Brief report: ultraviolet radiation exposure is associated with clinical and autoantibody phenotypes in juvenile myositis. *Arthritis Rheum* 2013 Jul;65(7):1934-41. doi: 10.1002/art.37985.
- 79. Shah M, Mamyrova G, Targoff IN, Huber AM, Malley JD, Rice MM, Miller FW, Rider LG; Childhood Myositis Heterogeneity Collaborative Study Group. The clinical phenotypes of the juvenile idiopathic inflammatory myopathies. *Medicine* (Baltimore). 2013 Jan;92(1):25-41. doi: 10.1097/MD.0b013e31827f264d.

- 80. Weiss PF, Chauvin NA, Klink AJ, Localio R, Feudtner C, Jaramillo D, Colbert RA, Sherry DD, Keren R. Detection of enthesitis in children with enthesitis-related arthritis: dolorimetry compared to ultrasonography. *Arthritis Rheumatol* 2014 Jan;66(1):218-27. doi: 10.1002/art.38197.
- 81. Yokogawa N*, Lieberman SM*, Alawi F, Bout-Tabaku S, Guttenberg M, Sherry DD, Vivino FB. Comparison of Labial Minor Salivary Gland Biopsies from Childhood Sjögren's Syndrome and Age-Matched Controls. *J Rheumatol* 2014 Jun;41(6):1178-82. doi: 10.3899/jrheum.131511
- 82. Bout-Tabaku S, Klieger SB, Wrotniak BH, Sherry DD, Zemel BS, Stettler N. Adolescent Obesity, Joint Pain, and Hypermobility. *Pediatric Rheumatology Online J* 2014 Mar 29;12(1):11. doi: 10.1186/1546-0096-12-11
- 83. Autmizguine J, Cohen-Wolkowiez M, Ilowite N; RAPPORT Investigators. Rilonacept pharmacokinetics in children with systemic juvenile idiopathic arthritis. *J Clin Pharmacol*. 2015 Jan;55(1):39-44. doi: 10.1002/jcph.372. Epub 2014 Aug 22.
- 84. Ilowite NT, Prather K, Lokhnygina Y, Schanberg LE, Elder M, Milojevic D, Verbsky JW, Spalding SJ, Kimura Y, Imundo LF, Punaro MG, Sherry DD, Tarvin SE, Zemel LS, Birmingham JD, Gottlieb BS, Miller ML, O'Neil K, Ruth NM, Wallace CA, Singer NG, Sandborg CI. Randomized, double-blind, placebo-controlled trial of the efficacy and safety of rilonacept in the treatment of systemic juvenile idiopathic arthritis. *Arthritis Rheumatol.* 2014 Sep;66(9):2570-9. doi: 10.1002/art.38699.
- 85. Tress JL, Sherry DD. The cost of research: A survey of participating sites in a nationwide registry. *J Rheumatol* 2015 Apr;42(4):702-5. doi: 10.3899/jrheum.141122. Epub 2015 Feb 15
- 86. Schweitzer A, Della Beffa C, Akmatov MK, Narchi H, Luegmair M, Abaev JK, Sherry DD, Pessler F. Primary osteomyelitis of the sternum in the pediatric age group: Report of a new case and systematic analysis of seventy-four cases. *Pediatr Infect Dis J* 2015 Apr;34(4):e92-e101. doi: 10.1097/INF.0000000000000597
- 87. Ombrello MJ, Remmers EF, Tachmazidou I, Grom A, Foell D, Haas JP, Martini A, Gattorno M, Özen S, Prahalad S, Zeft AS, Bohnsack JF, Mellins ED, Ilowite NT, Russo R, Len C, Hilario MO, Oliveira S, Yeung RS, Rosenberg A, Wedderburn LR, Anton J, Schwarz T, Hinks A, Bilginer Y, Park J, Cobb J, Satorius CL, Han B, Baskin E, Signa S, Duerr RH, Achkar JP, Kamboh MI, Kaufman KM, Kottyan LC, Pinto D, Scherer SW, Alarcón-Riquelme ME, Docampo E, Estivill X, Gül A, de Bakker PI, Raychaudhuri S, Langefeld CD, Thompson S, Zeggini E, Thomson W, Kastner DL, Woo P. HLA-DRB1*11 and variants of the MHC class II locus are strong risk factors for systemic juvenile idiopathic arthritis. Proceedings of the National Academy of Sciences of the United States of America. 2015; 112(52):15970-5. PMID: 26598658 PMCID: PMC4702958
- 88. Basiaga M, Sherry D. Toe walking as a presenting sign of systemic lupus erythematosus. *Lupus*. 2015 May 13. pii: 0961203315586825.PMID: 25972365
- 89. Sherry DD, Brake L, Tress JL, Sherker J, Fash K, Ferry K, Weiss PF. The Treatment of Juvenile Fibromyalgia with an Intensive Physical and Psychosocial Program. *J Pediatr* 2015;167(3):731-737. doi: 10.1016/j.jpeds.2015.06.036
- 90. Kashikar-Zuck S, Carle A, Barnett K, Goldschneider KR, Sherry DD, Mara CA, Cunningham N, Farrell J, Tress J, DeWitt EM. Longitudinal evaluation of patient-reported outcomes measurement information systems measures in pediatric chronic pain.

- Pain. 2016; 157(2):339-47. NIHMSID: NIHMS727488 PMID: 26447704 PMCID: PMC4724302
- 91. Yokogawa N, Lieberman S, Sherry D, Vivino F. Features of Childhood Sjögren Syndrome in Comparison to Adult Sjögren Syndrome: Considerations in Establishing Child-Specific Diagnostic Criteria. *Clin Exp Rheum*. 2016 Mar-Apr;34(2):343-51. Epub 2016 Jan 20. PubMed PMID: 26812559
- 92. Horton DB, Strom BL, Putt ME, Rose CD, Sherry DD, Sammons JS. Epidemiology of Clostridium difficile Infection-Associated Reactive Arthritis in Children: An Underdiagnosed, Potentially Morbid Condition. JAMA Pediatr. 2016 May 16:e160217. doi: 10.1001/jamapediatrics.2016.0217. [Epub ahead of print] PubMed PMID: 27182697.
- 93. Habers GE, Huber AM, Mamyrova G, Targoff IN, O'Hanlon TP, Adams S, Pandey JP, Boonacker C, van Brussel M, Miller FW, van Royen-Kerkhof A, Rider LG. Brief Report: Association of Myositis Autoantibodies, Clinical Features, and Environmental Exposures at Illness Onset With Disease Course in Juvenile Myositis. Arthritis & rheumatology (Hoboken, N.J.). 2016; 68(3):761-8. NIHMSID: NIHMS730402 PMID: 26474155 PMCID: PMC4767657
- 94. Kaufman EL, Tress J, Sherry DD. Trends in Medicalization of Children with Amplified Musculoskeletal Pain Syndrome. Pain Med 2016 Aug 6. pii: pnw188.

Research Publications, non-peer reviewed:

- 1. Sherry DD. Limb pain in childhood. *Pediatr Rev* 1990;12:39-46
- 2. Sherry, DD. Journal Review. Primary Care Rheumatology 1992;2:16-17
- 3. Wallace CA, Sherry DD. A practical approach to the avoidance of methotrexate (MTX) toxicity Clinical use of MTX levels. *J Rheumatol* 1995;22:1009-1012
- 4. Yancey C, White P, Magilavy D, Gewanter H, Lowe B, Passo M, Sherry D, Warren R, Gross RD, Fierson H, Koller H, Mahon K, Rabinowicz IM, Stager DR. Guidelines for ophthalmologic examinations with children with juvenile rheumatoid arthritis. Section on Rheumatology and Section on ophthalmology. *Pediatrics* 1993; 92:295-296
- 5. Cron RQ, Benjamin DR, Sherry DD. Picture of the Month, Polyarteritis nodosa with angioedema. *Arch Pediatr Adolesc Med* 1996;150:875-876
- 6. Cron RQ, Wallace CA, Sherry DD. Childhood sarcodosis does age of onset predict clinical manifestations? [letter] *J Rheumatol* 1997;24:1654-1655
- 7. Sherry DD. Musculoskeletal pain in children. Curr Opin Rheumatol 1997;9:467-470
- 8. Sandborg CI, Wallace CA, Adams BS, Bowyer SL, Cassidy J, Dent P, Glass DN, Ilowite NT, Katona IM, Kredich D, Lindsley CB, Myers LK, Rosenberg AM, Sherry D, Stein L, Szer I, Weinblatt ME, Zemel ZS: Position statement of the American College of Rheumatology regarding referral of children and adolescents to pediatric rheumatologists. *Arthritis Care Res* 1999;12:48–51
- 9. Sherry DD. An overview of amplified musculoskeletal pain syndromes *J Rheumatol* 2000;Suppl 58:44-48
- 10. Sherry DD. Pain syndromes in children Curr Rheumatol Reports 2000;2:337-342
- 11. Sherry DD. What's new in the diagnosis and treatment of juvenile rheumatoid arthritis. [editorial] *J Pediatr Orthop* 2000;20:419-420
- 12. Sherry DD. Diagnosis and treatment of amplified musculoskeletal pain in children *Clin Exp Rheumatol* 2001;19:617-620
- 13. Sherry DD. Pain Syndromes. Yourdoctor.com 2001
- 14. Sherry DD. Steroids. Yourdoctor.com 2001

- 15. Sherry DD, Malleson PN. The idiopathic musculoskeletal pain syndromes in childhood. *Rheum Dis Clin N Am* 2002;28:669-85
- 16. Sherry DD. Diagnose und therapie von schmerzverstärkungssyndromen bei kindern: Erfahrung aus zwei jahrzehnten. *Akt Rheumatol* 2004; 29:137-141
- 17. Cabral DA, Laxer RM, Schrader J, Turvey S, Stevens A, Yeung RSM, Foster H, Emery H, Prendiville J, Tucker LB, Foeldvari I, Sherry DD, Klinkhoff AB, Wallace CA, Houghton K. Old challenges and new directions in pediatric rheumatology. *J Rheumatol* 2006:33:173-184
- 18. Sherry DD. Physical activity levels in the treatment of juvenile fibromyalgia Nature Review Rheumatology Published online: 13 November 2012 | doi:10.1038/nrrheum.2012.193
- 19. Sherry DD. Pain terminology. *JAMA Pediatr*. 2014 Dec 1;168(12):1167-8. doi: 10.1001/jamapediatrics.2014.1784.[letter]
- 20. Hoffart CM, Sherry DD. Fibromyalgia--Toward a Definition in Children. J Pediatr. 2016 Feb;169:9-10. doi: 10.1016/j.jpeds.2015.11.034. Epub 2015 Dec 9. PubMed PMID: 26681474.

Chapters

- 1. Mosca V, Sherry DD. Juvenile rheumatoid arthritis and seronegative spondyloarthropathies. <u>Levell and Winter's Pediatric Orthopaedics</u>, 3rd edition. Morrissy RT (ed). Philadelphia, JB Lippincott Company, 1990, pp 297-324
- 2. Contributor, Kawasaki Disease, <u>The Red Book</u> Report of the Committee on Infectious Diseases, 22nd ed, 1991
- 3. Sherry DD, Mellins EM, Nepom BS. Pauciarticular onset juvenile chronic (rheumatoid) arthritis. Oxford Textbook of Rheumatology Maddison PJ, Isenberg DA, Woo P, Glass DN (eds). Oxford, Oxford University Press. 1993 pp. 710-722
- 4. Sherry DD. Juvenile Rheumatoid Arthritis. <u>Current Therapy in Allergy, Immunology, and Rheumatology</u>, 5th edition, Lichtenstein LM, Fauci AS (eds). St. Louis, Mosby, 1996 pp. 194-199.
- 5. Sherry DD, Mosca V. Juvenile rheumatoid arthritis and seronegative spondyloarthropathies. <u>Levell and Winter's Pediatric Orthopaedics</u>, 4th edition. Morrissy RT, Weinstein SL (eds). Philadelphia, Lippincott-Raven, 1996 pp. 393-421
- 6. Sherry DD, Mellins EM, Nepom BS. Pauciarticular onset juvenile chronic (rheumatoid) arthritis. Oxford Textbook of Rheumatology, 2nd edition, Maddison PJ, Isenberg DA, Woo P, Glass DN (eds). Oxford, Oxford University Press. 1998 pp. 1099-1114
- 7. Sherry DD. Arthritis. <u>Pediatric Orthopedic Secrets</u>, Staheli L, ed. Philadelphia: Handley & Belfus, 1998 pp 311-316
- 8. Sherry DD. Disproportional musculoskeletal pain. <u>Pediatric Orthopedic Secrets</u>, Staheli L, ed. Philadelphia: Handley & Belfus, 1998 pp 19-24
- 9. Sherry DD. Pain Syndromes. <u>Adolescent Rheumatology</u>, Isenberg DA, Miller J III, eds. London, Martin Dunitz Ltd. 1998, pp. 197-227
- 10. Sherry DD. Juvenile rheumatoid arthritis. <u>Conn's Current Therapy</u>, 53rd edition, Rakel RE, Bope ET, eds. Philadelphia, WB Saunders, 2001, 1016-21
- 11. Malleson PN, Sherry DD. Anatomy and pathophysiology of pain. <u>Textbook of Pediatric Rheumatology</u>, 4th edition, Cassidy JT, Petty RE, eds. Philadelphia, WB Saunders, 2001 PP 30-3

- 12. Sherry DD, Malleson PN. Nonrheumatic musculoskeletal pain. <u>Textbook of Pediatric Rheumatology</u>, 4th edition, Cassidy JT, Petty RE, eds. Philadelphia, WB Saunders, 2001, pp. 362-380
- 13. Sherry DD, Malleson PN. Idiopathic musculoskeletal pain syndromes. <u>Textbook of Pediatric Rheumatology</u>, 4th edition, Cassidy JT, Petty RE, eds. Philadelphia, WB Saunders, 2001, pp. 381-394
- 14. Sherry DD. Pain Syndromes. <u>Primer on the Rheumatic Diseases 12th edition</u>, Klippel JH, ed. Atlanta, Arthritis Foundation, 2001, pp 548-554
- 15. Panel member, Guideline for the Management of Pain in Osteoarthritis, Rheumatoid Arthritis, and Juvenile Chronic Arthritis. Glenview, IL, American Pain Society, 2002
- 16. Wallace CA, Sherry DD. Juvenile rheumatoid arthritis. <u>Rudolph's Pediatrics</u>, 21st edition, Rudolph AM, Hoffman JIE, Rudolph CD, eds. Stamford, Connecticut, Appleton & Lange, 2003, pp. 836-840
- 17. Sherry DD. Fibromyalgia in children. Fibromyalgia & Other Central Pain Syndromes, Wallace DJ, Clauw DJ, eds. Philadelphia, Lippincott, Williams & Wilkins, 2005, pp. 177-185.
- 18. Malleson PN, Sherry DD. Noninflammatory musculoskeletal pain conditions. <u>Textbook of Pediatric Rheumatology</u>, 5th edition, Cassidy JT, Petty RE, Laxer RM, Lindsley CB, eds. Philadelphia, Elsevier Saunders, 2005, 676-696
- 19. Sherry DD, Malleson PN. Pain and the pain amplification syndromes. <u>Textbook of Pediatric Rheumatology</u>, 5th edition, Cassidy JT, Petty RE, Laxer RM, Lindsley CB, eds. Philadelphia, Elsevier Saunders, 2005, 697-713
- Sherry DD, Varni JW, Rapoff MA. Pain assessment and management. <u>Arthritis in Children and Adolescents</u>, <u>Juvenile Idiopathic Arthritis</u>. Szer I, KimuraY, Malleson PN, Southwood TR, eds. Oxford, Oxford University Press, 2006; 357-366
- 21. Sherry DD. Arthritis. <u>Pediatric Orthopedic Secrets</u>, 2nd edition, Staheli L, Song K, eds. Philadelphia: Elsevier, 2007, 414-421
- 22. Sherry DD. Amplified musculoskeletal pain. <u>Pediatric Orthopedic Secrets</u>, 2nd edition, Staheli L, Song K, eds. Philadelphia: Elsevier, 2007, 24-29
- 23. Sherry DD, Pessler F. Rheumatic fever, Merck Manuel, 18th edition, 2006, 2358-2363
- 24. Pessler F, Sherry DD. Bone and connective tissue disorders in children. Merck Manuel, 18th edition, 2006, 2380-2391
- 25. Sherry DD, Synovitis Transient. <u>5 Minute Pediatric Consult</u>, Schwartz R, ed. 2008, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, 830-831
- 26. Sherry DD, Polyarteritis Nodosa. <u>5 Minute Pediatric Consult</u>, Schwartz R, ed. 2008, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, 642-643
- Sherry DD, Tendonitis. <u>5 Minute Pediatric Consult</u>, Schwartz R, ed. 2008, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, 838-839
- 28. Sherry DD, Slipped Capital Femoral Ephysis. <u>5 Minute Pediatric Consult</u>, Schwartz R, ed. 2008, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, 784-785
- 29. Sherry DD, Complex Regional Pain Syndrome in Children, UpToDate 2010, 2011.
- 30. Pessler F, Sherry DD. Acute Rheumatic Fever. Merck Manuel, in press
- 31. Sherry DD. Pain amplification syndromes. <u>Textbook of Pediatric Rheumatology</u>, 6th edition, Cassidy JT, Petty RE, Laxer RM, Lindsley CB, eds. Philadelphia, Elsevier Saunders, 2010; pp 718-729
- 32. Sherry DD, Synovitis Transient. 5 Minute Pediatric Consult, Schwartz R, ed. 2014, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, in press

- 33. Sherry DD, Polyarteritis Nodosa. 5 Minute Pediatric Consult, Schwartz R, ed. 2014, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, in press
- 34. Sherry DD, Tendonitis. 5 Minute Pediatric Consult, Schwartz R, ed. 2014, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, in press
- 35. Sherry DD, Slipped Capital Femoral Ephysis. 5 Minute Pediatric Consult, Schwartz R, ed. 2014, Philadelphia, Lippincott Williams & Wilkins. Philadelphia, in press
- 36. Sherry DD. Pain amplification syndromes. Textbook of Pediatric Rheumatology, 7th edition, Petty RE, Laxer RM, Lindsley CB, eds. Philadelphia, Elsevier Saunders, in press

Abstracts (past 5 years):

- 1. Yokogawa N, Bout-Tabaku S, Lieberman SM, Alawi F, Palazzo JP, Fisher L, Vivino FB, Sherry DD . Manifestations of Pediatric Sjögren's Syndrome: Comparison to Adult Sjögren's Syndrome *Arthritis Rheum* 2009
- 2. Yokogawa N, Lieberman SM, Bout-Tabaku S, Alawi F, Palazzo JP, Guttenberg M, Vivino FB, Sherry DD Diagnostic Algorithm for Pediatric Sjögren's Syndrome *Arthritis Rheum* 2009
- 3. Sherry DD. Increasing incidence of conversion symptoms in children with amplified musculoskeletal pain, 8th International Symposium on Pediatric Pain, Acapulco, Mexico, March 2010
- 4. Ardoin SP, Povsic T, Schanberg LE, Sandborg CI, Barnhart H, Yow E, Evans G, Mieszkalski KL, Ilowite NT, von Scheven E, Eberhard BA, Imundo LF, Kimura Y, Silverman ED, Bowyer SL, Punaro MG, Singer NG, Sherry DD, McCurdy DK, Klein-Gitelman M, Wallace C, Silver RM, Wagner-Weiner L, Higgins GC, Brunner H. CD146+ Endothelial Progenitor Cell Number Increases Following 36 Months of Atorvastatin Therapy in Children and Adolescents with SLE: The Atherosclerosis Prevention in Pediatric Lupus Erythematosus (APPLE) Cohort. American College of Rheumatology, annual meeting 2011. *Arthritis Rheum*
- 5. Ardoin SP, Schanberg LE, Sandborg CI, Barnhart H, Yow E, Evans G, Mieszkalski K, Ilowite NT, von Scheven E, Eberhard BA, Imundo LF, Levy D, Kimura Y, Silverman ED, Bowyer SL, Punaro MG, Singer NG, Sherry DD, McCurdy DK, Klein-Gitelman M, Wallace CA, Silver RM, Wagner-Weiner L, Higgins GC, Brunner H. A Secondary Analysis of the Atherosclerosis Prevention in Pediatric Lupus Erythematosus (APPLE) Study Shows That Atorvastatin Therapy Reduces Progression of Carotid Intima Medial Thickening in Pubertal SLE Patients with Higher C Reactive Protein. American College of Rheumatology, annual meeting 2011. *Arthritis Rheum*
- 6. Hoffart C, Weiss P, Klink AJ, Sherry DD, Feudtner C. Inpatient Treatment Variation of Children Hospitalized with Complex Regional Pain Syndrome. American College of Rheumatology, annual meeting 2011. *Arthritis Rheum*
- 7. Guite JW, Kraemer FW, Sherry D D, Wong E W, Olsen MN. Medication use among pediatric patients with chronic musculoskeletal pain referred for an initial multidisciplinary pain clinic evaluation. 32nd American Pain Society (APS) Annual Scientific Meeting, New Orleans, LA. *Pain* 2013

Books, Videos, etc.

AAP-Pediatrics Update (Audiotape). White PH (mod), Lovell DJ, Sherry DD. Rheumatology Current Concepts. Vol. 21.. 4, 2000

Amplified Musculoskeletal Pain in Childhood. Diagnosis and Treatment. A Guide for Physical and Occupational Therapists. (Videotape, DVD) MMII, Sherry DD, executive producer

Woo P, Laxer RM, Sherry DD. <u>Pediatric Rheumatology in Clinical Practice</u>, London, Springer-Verlag, 2007, 188 p.

Sherry D, Code D. Put kids in their place, for good. The focus of a marriage should be – the marriage. Editorial The Philadelphia Inquirer, 21 Jan 2008.

Sherry D, Sherker J, Passo M. Musculoskeletal Pain Syndromes in Children. (Audiotape) Pediatric UPDATE. 2011

Laxer RM, Sherry DD, editors, Pediatric Clin North Am. 2012 Apr;59(2):xiii-xiv.

Sherry DD, Rabinovich CE, Poduval M, Bhaskar AR. Juvenile Idiopathic Arthritis. Medscape Reference. Updated May 10, 2013. Available at: http://emedicine.medscape.com/article/1007276-overview.

Amplified Musculoskeletal Pain Syndromes in Children. Diagnosis and Treatment Guidelines. DVD, 118 minutes. MMXIII, Sherry DD, executive producer