

# OBSTETRICS & GYNECOLOGY



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- Comments from the reviewers and editors (email to author requesting revisions)
- Response from the author (cover letter submitted with revised manuscript)\*

*\*The corresponding author has opted to make this information publicly available.*

Personal or nonessential information may be redacted at the editor's discretion.

Questions about these materials may be directed to the *Obstetrics & Gynecology* editorial office:  
[obgyn@greenjournal.org](mailto:obgyn@greenjournal.org).

**Date:** Dec 04, 2020  
**To:** "Joshua I Rosenbloom" [REDACTED]  
**From:** "The Green Journal" em@greenjournal.org  
**Subject:** Your Submission ONG-20-2916

RE: Manuscript Number ONG-20-2916

The length of the second stage of labor according to obstetrical history in women delivering twins

Dear Dr. Rosenbloom:

Your manuscript has been reviewed by the Editorial Board and by special expert referees. Although it is judged not acceptable for publication in Obstetrics & Gynecology in its present form, we would be willing to give further consideration to a revised version.

If you wish to consider revising your manuscript, you will first need to study carefully the enclosed reports submitted by the referees and editors. Each point raised requires a response, by either revising your manuscript or making a clear and convincing argument as to why no revision is needed. To facilitate our review, we prefer that the cover letter include the comments made by the reviewers and the editor followed by your response. The revised manuscript should indicate the position of all changes made. We suggest that you use the "track changes" feature in your word processing software to do so (rather than strikethrough or underline formatting).

Your paper will be maintained in active status for 14 days from the date of this letter. If we have not heard from you by Dec 18, 2020, we will assume you wish to withdraw the manuscript from further consideration.

#### REVIEWER COMMENTS:

Reviewer #1: Thank you for examining a clinical question that may be of interest to the Journal's readers: Is the length of the second stage of labor different for laboring twin mothers compared to singleton mothers.

I found the verbiage to be quite duplicative to the tables. It seems like you could summarize the tables better, rather than repeating all of the fields that you examined.

The format is also not particularly useful or familiar to readers who are familiar with the literature re: management of labor. The "standard" for decades has been a form of Partogram that expresses dilatation over time. I think this is clinically much more useful to the reader since a curve that is similar to a typical labor floor graph is a visual that they understand.

I also found myself going back several times and counting the number of patients in each of the groups since I was not sure if you were describing the twins, the singletons, or the entire delivery population so please do a better job of marking the tables as "Twins..."

It does not seem intellectually correct to include someone with prior miscarriages or terminations in the "parous" group. I understand the obstetrical definition of parous, but for labor management, the provider cares whether she has delivered a baby at term or not. It would be good to examine other labor curve papers to see how what definition they used.

You had many exclusions for complicated Di/Mo twins, but did you use the same exclusions like IUGR, cytogenetic abnormality etc for the singletons? If so please state it.

You do not comment upon the standard of care at your 3 institutions re: management of the second stage of labor. Some hospitals delay the second stage and don't start pushing until the patient is moved to an operating room and then they start pushing. Others have a standard that patients don't start pushing until they feel pressure and the need to push. Is it possible to comment upon the standards in your institutions since they might be quite different in other facilities.

As you looked at your parameters, can you clarify if this was the original pre-pregnancy or delivery maternal BMI? The weight gain in kg seems extremely small for a twin pregnancy. If this is not accurate info, it should not be included. Also, you made a distinction between induction of labor and spontaneous labor. What about augmentation? Was that included in the induction of labor group or ignored? Your numbers, especially in table 3 are so small, adding them to IOL might increase the numbers some. Did a statistician assess if these numbers are even large enough to be included or should they be "lumped" together for some of the groups like Apgar, etc.

In the literature summary on p10, you cite various studies but I wonder if there is really any point in what does not seem clinically meaningful to report (like line 193.)

Your final conclusions that prolonged second stage may be associated with worse neonatal outcome then, without support, led to a suggestion that an intervention to shorten the second stage of labor might be warranted. Since there may be other factors that led to the NICU admissions (e.g. chorioamnionitis might lead to a longer second stage but you did not look at that diagnosis), it does not seem appropriate to make this suggestion.

Reviewer #2: This retrospective cohort study by Levin et al evaluated the normal length of the second stage in twin deliveries according to obstetrical history and clinical characteristics, and compared the length of the second stage (onset of complete cervical dilation to delivery of the first twin) in twin and singleton gestations over a period of 10 years. The authors concluded that the length of the second stage of labor is longer in twin gestations compared to singletons, and is influenced by obstetric history. This paper was well organized and very well written. Some minor corrections to consider:

#### Introduction:

The introduction was well written. It discussed the challenges with defining the length of the second stage in twins, and proposed an objective way to study of the length of the second stage of labor as the time from complete cervical dilation to delivery of the first twin.

#### Methods:

Line 65: Please replace 'for' with 'over'

Lines 67-70: Were women with diamniotic twins with polyhydramnios excluded? Polyhydramnios can affect the length of labor.

Line 89: Why did the authors choose 34 weeks as the cut off point for this comparison?

#### Discussion:

Lines 201-203: What specific interventions would the authors suggest to limit the length of the second stage?

Lines 201-212: Please discuss racial disparities as a limitation - the data did not include racially diverse populations like blacks and Hispanics, so these data might not be generalizable within the United States.

Lines 213-219: Discuss the limitations of using retrospective data, including the possibility of recall bias, and how these may affect the findings of the study.

Reviewer #3: This paper adds to the small literature looking at the second stage of large in a unique population: multiple gestations. One of the strengths is that is a multicenter study with a large sample size of multiple gestation. The author presents an analysis which assesses this association in a novel population.

Despite these strengths, the paper has several limitations that should be addressed to strengthen the paper.

#### Major concerns:

More information needs to be given about study recruitment. The objective states that the author wanted to evaluate the normal length of second stage and compare it to singletons within the same cohort, yet they don't define the singleton cohort.

In the methods, the sample size report 2,009 women were recruited, however it's not clearly stated if among these 2,009 women singleton pregnancies were included or these were all twin pregnancies. If this is the case, we know nothing about the singleton cohort.

The author also uses the 95th percentile to evaluate the 2nd stage of labor, yet the 2nd stage of labor is not defined, and the reader is unable to determine what is considered the 95th percentile for 2nd stage of labor.

#### Abstract

The objective, needs to be clearly defined. It is not and should consider revising it.

Again, the 95th percentile is not clearly define nor is the 2nd stage of labor.

I would be careful when discussing your associations and conclusions as it is not very clear if the author has truly shown accurate "normal ranges" of 2nd stage of labor with twins.

#### Introduction

I think more time should be spent discussing and defining the second stage of labor and what's currently on there. I would also consider discussing the ACOG/SMFM. It is just briefly mentioned.

#### Methods

Line 65: This was a project that had a duration of ten years. It doesn't state the years the project occurred.

Line 79: How were these women recruited? It is not clear from the study how the patients were recruited and if the five subgroups include only twin pregnancies or singletons as well.

Line 90: What not use CI? Again, 5th and 95th percentile are not clearly defined.

#### Results:

The results section could benefit from reporting more of the main results of the study.

Line 97: You introduce admission to NICU and phototherapy here, however I don't see it in the baseline demographics/characteristics in Table 1.

There are also no baseline characteristics for the singleton cohort that is mentioned throughout the paper.

#### Discussion

I don't think that this paper clearly evaluates the objectives stated in the introduction.

There should be a discussion of some of the limitations of your study in more detail. Some things to discuss would be limitations of how the second stage of labor was evaluated, lack of information on important confounders, etc.

#### STATISTICAL EDITOR COMMENTS:

The Statistical Editor makes the following points that need to be addressed:

Table 1: Should make clear that these characteristics are from the twin cohorts only, not the singletons. There are many entries that should be mean $\pm$ SD that only have SD entries. There are several entries (age, wgt gain) that have expressions to 0.001 precision. The years should be rounded to nearest 0.1 year and wgt gain to the nearest 0.1 kg, not to 0.001 kg precision. For the last two columns (N = 43 and 16), all %s should be rounded to nearest integer %, not cited to 0.1% precision.

Tables 2, 3 and 6: The medians are consistently different from the means, ie, the data are all skewed. So, it is probably not useful to cite the mean values. Suggest instead simply organizing the data as 5th, 25th, 50th, 75th and 95th %-tiles and omitting the mean (could be cited as online material if thought to be useful).

Table 3: The precise estimation of percentiles requires a large sample size. That is met for the nulliparous and parous groups. It is met marginally for the GMP group and not at all for the previous CS and P1CS1 cohorts. (How precise can the 5th or 95th %-tile be estimated when the samples are N = 43 or N = 16)? See Royston P. Constructing Time-specific reference ranges. Stat. Med 1991;10:675-690.

Table 4: This Table could be put into on-line material. Need to include the variables retained in the final model as a footnote to table. Also need to include the SE for the estimates.

Table 5: Need to clarify the format. It appears that Apgar scores at 1 and 5 min are formatted as mean(SD) and then as median[IQR], but that needs clarification as a footnote to Table. The first column (N = 96), should round the %s to nearest integer %.

#### EDITOR COMMENTS:

1. Thank you for submitting your work to Obstetrics & Gynecology. We are interested in a revision but only one that is significantly re-organized and streamlined.

As is, the five different categories of twin gestations, combined with the numerous variables assessed, coupled with the singleton comparisons make the manuscript overwhelming.

As indicated by the statistical reviewer, no need to present means, medians fine. Also, as another reviewer suggested,

graphical data would be illuminating.

In short, should you choose to revise I am asking for more than a typical revision and instead a serious overhaul of your manuscript so that readers can derive maximal benefit from your important data.

2. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will also be including your point-by-point response to the revision letter. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses:

- A. OPT-IN: Yes, please publish my point-by-point response letter.
- B. OPT-OUT: No, please do not publish my point-by-point response letter.

3. Obstetrics & Gynecology uses an "electronic Copyright Transfer Agreement" (eCTA). When you are ready to revise your manuscript, you will be prompted in Editorial Manager (EM) to click on "Revise Submission." Doing so will launch the resubmission process, and you will be walked through the various questions that comprise the eCTA. Each of your coauthors will receive an email from the system requesting that they review and electronically sign the eCTA.

Please check with your coauthors to confirm that the disclosures listed in their eCTA forms are correctly disclosed on the manuscript's title page.

4. All submissions that are considered for potential publication are run through CrossCheck for originality. The following lines of text match too closely to previously published works.

<https://doi.org/10.1016/j.ejogrb.2020.08.029> - Cite and variance to Lines 76-77 and Lines 79-83.

5. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric data definitions at <https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-obstetrics-data-definitions> and the gynecology data definitions at <https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-gynecology-data-definitions>. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

6. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Original Research reports should not exceed 22 typed, double-spaced pages (5,500 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and print appendixes) but exclude references.

7. The most common deficiency in revised manuscripts involves the abstract. Be sure there are no inconsistencies between the Abstract and the manuscript, and that the Abstract has a clear conclusion statement based on the results found in the paper. Make sure that the abstract does not contain information that does not appear in the body text. If you submit a revision, please check the abstract carefully.

In addition, the abstract length should follow journal guidelines. The word limit for Original Research articles is 300 words. Please provide a word count.

8. Only standard abbreviations and acronyms are allowed. A selected list is available online at <http://edmgr.ovid.com/ong/accounts/abbreviations.pdf>. Abbreviations and acronyms cannot be used in the title or précis. Abbreviations and acronyms must be spelled out the first time they are used in the abstract and again in the body of the manuscript.

9. The journal does not use the virgule symbol (/) in sentences with words. Please rephrase your text to avoid using "and/or," or similar constructions throughout the text. You may retain this symbol if you are using it to express data or a measurement.

10. In your Abstract, manuscript Results sections, and tables, the preferred citation should be in terms of an effect size, such as odds ratio or relative risk or the mean difference of a variable between two groups, expressed with appropriate confidence intervals. When such syntax is used, the P value has only secondary importance and often can be omitted or noted as footnotes in a Table format. Putting the results in the form of an effect size makes the result of the statistical test more clinically relevant and gives better context than citing P values alone.

If appropriate, please include number needed to treat for benefits (NNTb) or harm (NNTh). When comparing two procedures, please express the outcome of the comparison in U.S. dollar amounts.

Please standardize the presentation of your data throughout the manuscript submission. For P values, do not exceed three decimal places (for example, "P = .001"). For percentages, do not exceed one decimal place (for example, 11.1%).

11. Please review the journal's Table Checklist to make sure that your tables conform to journal style. The Table Checklist

is available online here: [http://edmgr.ovid.com/ong/accounts/table\\_checklist.pdf](http://edmgr.ovid.com/ong/accounts/table_checklist.pdf).

12. Please review examples of our current reference style at <http://ong.editorialmanager.com> (click on the Home button in the Menu bar and then "Reference Formatting Instructions" document under "Files and Resources"). Include the digital object identifier (DOI) with any journal article references and an accessed date with website references. Unpublished data, in-press items, personal communications, letters to the editor, theses, package inserts, submissions, meeting presentations, and abstracts may be included in the text but not in the reference list.

In addition, the American College of Obstetricians and Gynecologists' (ACOG) documents are frequently updated. These documents may be withdrawn and replaced with newer, revised versions. If you cite ACOG documents in your manuscript, be sure the reference you are citing is still current and available. If the reference you are citing has been updated (ie, replaced by a newer version), please ensure that the new version supports whatever statement you are making in your manuscript and then update your reference list accordingly (exceptions could include manuscripts that address items of historical interest). If the reference you are citing has been withdrawn with no clear replacement, please contact the editorial office for assistance ([obgyn@greenjournal.org](mailto:obgyn@greenjournal.org)). In most cases, if an ACOG document has been withdrawn, it should not be referenced in your manuscript (exceptions could include manuscripts that address items of historical interest). All ACOG documents (eg, Committee Opinions and Practice Bulletins) may be found at the Clinical Guidance page at <https://www.acog.org/clinical> (click on "Clinical Guidance" at the top).

13. Authors whose manuscripts have been accepted for publication have the option to pay an article processing charge and publish open access. With this choice, articles are made freely available online immediately upon publication. An information sheet is available at <http://links.lww.com/LWW-ES/A48>. The cost for publishing an article as open access can be found at <https://wkauthorservices.editage.com/open-access/hybrid.html>.

Please note that if your article is accepted, you will receive an email from the editorial office asking you to choose a publication route (traditional or open access). Please keep an eye out for that future email and be sure to respond to it promptly.

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If you choose to revise your manuscript, please submit your revision through Editorial Manager at <http://ong.editorialmanager.com>. Your manuscript should be uploaded in a word processing format such as Microsoft Word. Your revision's cover letter should include the following:

- \* A confirmation that you have read the Instructions for Authors (<http://edmgr.ovid.com/ong/accounts/authors.pdf>), and
- \* A point-by-point response to each of the received comments in this letter. Do not omit your responses to the Editorial Office or Editors' comments.

If you submit a revision, we will assume that it has been developed in consultation with your co-authors and that each author has given approval to the final form of the revision.

Again, your paper will be maintained in active status for 14 days from the date of this letter. If we have not heard from you by Dec 18, 2020, we will assume you wish to withdraw the manuscript from further consideration.

Sincerely,

Dwight J. Rouse, MD, MSPH

2019 IMPACT FACTOR: 5.524

2019 IMPACT FACTOR RANKING: 6th out of 82 ob/gyn journals

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In compliance with data protection regulations, you may request that we remove your personal registration details at any time. (Use the following URL: <https://www.editorialmanager.com/ong/login.asp?a=r>). Please contact the publication office if you have any questions.

Prof. Dwight J. Rouse,

Editor-in-Chief

Obstetrics and Gynecology

December 2020

RE: Manuscript Number ONG-20-2916

Dear Dr. Rouse:

Thank you very much for the opportunity to revise and resubmit our manuscript entitled "The length of the second stage of labor according to obstetrical history in women delivering twins," for consideration for publication in *Obstetrics and Gynecology*. We are honored to have been afforded this opportunity, and we have endeavored to address all the comments of the reviewers and the Statistical Editor. We have taken to heart your comment that this is not a simple revision and we have overhauled the manuscript accordingly.

We look forward to hearing from you.

Sincerely,  
Joshua Rosenbloom

**REVIEWER COMMENTS:**

REVIEWER COMMENTS:

Reviewer #1: Thank you for examining a clinical question that may be of interest to the Journal's readers: Is the length of the second stage of labor different for laboring twin mothers compared to singleton mothers.

**Answer:** Thank you very much.

I found the verbiage to be quite duplicative to the tables. It seems like you could summarize the tables better, rather than repeating all of the fields that you examined.

**Answer:** Thank you for this comment. We have summarized the tables with less repetition between the tables and the text.

The format is also not particularly useful or familiar to readers who are familiar with the literature re: management of labor. The "standard" for decades has been a form of Partogram that expresses dilatation over time. I think this is clinically much more useful to the reader since a curve that is similar to a typical labor floor graph is a visual that they understand.

**Answer:** We have added a Figure with the percentiles of times for the different groups. Since it is the second stage only, we did not create a partogram of dilation (or descent) but we have added a graphical reference (box plot) in order to aid the reader.

I also found myself going back several times and counting the number of patients in each of the groups since I was not sure if you were describing the twins, the singletons, or the entire delivery population so please do a better job of marking the tables as "Twins..."

**Answer:** We agree that the groups as described were confusing. We have addressed this by being clearer in our description of the groups/headings and also we have consolidated the twins into 3 groups instead of 5.

It does not seem intellectually correct to include someone with prior miscarriages or terminations in the "parous" group. I understand the obstetrical definition of parous, but for labor management, the provider cares whether she has delivered a baby at term or not. It would be good to examine other labor curve papers to see how what definition they used.

**Answer:** We apologize that this was not clear in the text. The text defines parous as a patient with at least one prior vaginal delivery at no more than 4 prior vaginal deliveries. Someone who had only a history of miscarriages or terminations was not considered parous.

You had many exclusions for complicated Di/Mo twins, but did you use the same exclusions like IUGR, cytogenetic abnormality etc for the singletons? If so please state it.

**Answer:** Thank you for this important question. We did not exclude these singletons. However because of the large sample size of the singleton cohort we do not expect that including these rare complications in the singleton cohort will have made a substantial difference in our findings

You do not comment upon the standard of care at your 3 institutions re: management of the second stage of labor. Some hospitals delay the second stage and don't start pushing until the patient is moved to an operating room and then they start pushing. Others have a standard that patients don't start pushing until they feel pressure and the need to push. Is it possible to comment upon the standards in your institutions since they might be quite different in other facilities.

**Answer:** Thank you for this important question. All three hospitals do not practice delayed pushing as a standard protocol either in singletons or in twins. Management of second stage of labor is performed at the discretion of the attending physician. Most twin deliveries are done in the labor room and not in the operating room in our hospitals. Notably we found no difference in length of the second stage in twins between the three hospitals. We have added this to the manuscript.

As you looked at your parameters, can you clarify if this was the original pre-pregnancy or delivery maternal BMI? The weight gain in kg seems extremely small for a twin pregnancy. If this is not accurate info, it should not be included. Also, you made a distinction between induction of labor and spontaneous labor. What about augmentation? Was that included in the induction of labor group or ignored? Your numbers, especially in table 3 are so small, adding them to IOL might increase the numbers some. Did a statistician assess if these numbers are even large enough to be included or should they be "lumped" together for some of the groups like Apgar, etc.

**Answer:** We have now included in the revised Tables the pre-pregnancy and pre-delivery BMI. We agree that the weight gain is moderate, however it is acceptable for the local population in our country of practice. The difference between singleton and twins weight gain is about 2-3 kilograms which is small, however it is reported by the women in admission and recorded at data charts. We have now included this to the limitation paragraph. Augmentation of labor was not included in the induction group. We have now defined this more clearly in the methods section.

In the literature summary on p10, you cite various studies but I wonder if there is really any point in what does not seem clinically meaningful to report (like line 193.)



**Answer:** Thank you for this comment. We have streamlined the Discussion and eliminated some of these references.

Your final conclusions that prolonged second stage may be associated with worse neonatal outcome then, without support, led to a suggestion that an intervention to shorten the second stage of labor might be warranted. Since there may be other factors that led to the NICU admissions (e.g. chorioamnionitis might lead to a longer second stage but you did not look at that diagnosis), it does not seem appropriate to make this suggestion.

**Answer:** Thank you for this cautionary note. We have changed the conclusion accordingly.

Reviewer #2: This retrospective cohort study by Levin et al evaluated the normal length of the second stage in twin deliveries according to obstetrical history and clinical characteristics, and compared the length of the second stage (onset of complete cervical dilation to delivery of the first twin) in twin and singleton gestations over a period of 10 years. The authors concluded that the length of the second stage of labor is longer in twin gestations compared to singletons, and is influenced by obstetric history. This paper was well organized and very well written. Some minor corrections to consider:

Introduction:

The introduction was well written. It discussed the challenges with defining the length of the second stage in twins, and proposed an objective way to study of the length of the second stage of labor as the time from complete cervical dilation to delivery of the first twin.

**Answer:** Thank you for this comment.

Methods:

Line 65: Please replace 'for' with 'over'

**Answer:** We have fixed the wording of this sentence.

Lines 67-70: Were women with diamniotic twins with polyhydramnios excluded?

Polyhydramnios can affect the length of labor.

**Answer:** Thank you for this interesting point. We did not exclude twins with polyhydramnios specifically. Although polyhydramnios can affect the length of labor, it is less clear that it is likely to affect the second stage, at which point most patients will have had rupture of membranes.

Line 89: Why did the authors choose 34 weeks as the cut off point for this comparison?

**Answer:** We chose 34 weeks for a few reasons; first, it represents the transition from early-preterm to late-preterm delivery; second, with a lower cutoff there would be very few deliveries at the younger gestational age, and third, we have previously used 34 weeks in other work the second stage in singletons (PMID: 32898773)

Discussion:

Lines 201-203: What specific interventions would the authors suggest to limit the length of the second stage?

**Answer:** We have actually removed this sentence altogether as we feel, after consulting the comments of all the reviewers, that the suggestion to limit the second stage is not fully supported by our data.

Lines 201-212: Please discuss racial disparities as a limitation - the data did not include racially diverse populations like blacks and Hispanics, so these data might not be generalizable within the United States.

**Answer:** Thank you for this important point. We have added this to the discussion.

Lines 213-219: Discuss the limitations of using retrospective data, including the possibility of recall bias, and how these may affect the findings of the study.

**Answer:** Thank you for this comment, we have added this to the Discussion.

Reviewer #3: This paper adds to the small literature looking at the second stage of large in a unique population: multiple gestations. One of the strengths is that is a multicenter study with a large sample size of multiple gestation. The author presents an analysis which assesses this association in a novel population.

Despite these strengths, the paper has several limitations that should be addressed to strengthen the paper.

**Answer:** Thank you for these comments and concerns.

Major concerns:

More information needs to be given about study recruitment. The objective states that the author wanted to evaluate the normal length of second stage and compare it to singletons within the same cohort, yet they don't define the singleton cohort.

**Answer:** Thank you for this very important point. We have entirely re-worked the methods and results in order to describe the recruitment of the twin and singleton cohorts and to describe the singleton cohort.

In the methods, the sample size report 2,009 women were recruited, however it's not clearly stated if among these 2,009 women singleton pregnancies were included or these were all twin pregnancies. If this is the case, we know nothing about the singleton cohort.

**Answer:** Thank you for this comment; we have clarified that 2,009 is the number of twin deliveries, and we have added information on the singleton deliveries.

The author also uses the 95th percentile to evaluate the 2nd stage of labor, yet the 2nd stage of labor is not defined, and the reader is unable to determine what is considered the 95th percentile for 2nd stage of labor.

**Answer:** We define the second stage of labor as the time from documented complete cervical dilation to delivery of the presenting twin, and we have clarified this in the manuscript.

Abstract

The objective, needs to be clearly defined. It is not and should consider revising it.

**Answer:** Thank you, we have attempted to more clearly define the objective. If there is a specific aspect of the objective that is unclear we would be very happy to further clarify.

Again, the 95th percentile is not clearly define nor is the 2nd stage of labor.

**Answer:** We have defined the second stage of labor in the abstract. The 95th percentile is defined as the time at which 95% of patients have already delivered.

I would be careful when discussing your associations and conclusions as it is not very clear if the author has truly shown accurate "normal ranges" of 2nd stage of labor with twins.

**Answer:** We have attempted to be cautious in our interpretation of the results and not to draw any firm clinical conclusions from them.

Introduction

I think more time should be spent discussing and defining the second stage of labor and what's currently on there. I would also consider discussing the ACOG/SMFM. It is just briefly mentioned.

**Answer:** Thank you for this point. We have added more information on the second stage of labor as requested.

Methods

Line 65: This was a project that had a duration of ten years. It doesn't state the years the project occurred.

**Answer:** We have updated this to state that the: 2011-2020

Line 79: How were these women recruited? It is not clear from the study how the patients were recruited and if the five subgroups include only twin pregnancies or singletons as well.

**Answer:** Thank you for this point. We have added that all eligible women were included under a waiver of consent. There was no recruitment. The labor and delivery database at each hospital was used to find women meeting inclusion criteria.

Line 90: What not use CI? Again, 5th and 95th percentile are not clearly defined.

**Answer:** Thank you for this question. We have noted that in many studies of the second stage of labor percentiles of time are used (e.g. PMID 29790194, 29324600, 21099592).

Results:

The results section could benefit from reporting more of the main results of the study.

**Answer:** Thank you for the comment. In the Results we have endeavored to present the salient results in the text while not repeating all the information in the tables.

Line 97: You introduce admission to NICU and phototherapy here, however I don't see it in the baseline demographics/characteristics in Table 1.

**Answer:** Thank you for this comment. NICU admission and phototherapy are adverse neonatal outcomes which are described in the outcomes Table 5. We did not include them in the baseline demographics because they are outcomes from the labor, not baseline pre-delivery characteristics.

There are also no baseline characteristics for the singleton cohort that is mentioned throughout the paper.

**Answer:** Thank you for this point. We have added this to Supplemental Table 1.

Discussion

I don't think that this paper clearly evaluates the objectives stated in the introduction.

**Answer:** Thank you for this comment. As discussed we believe we have strengthened the paper in a number of ways including reducing the number of twin subgroups, including data on the characteristics of the singleton cohort, adding graphical depictions of the results. We are certainly more than willing to further revise the paper to better evaluate the objectives if more specific guidance can be provided on how exactly the paper falls short.

There should be a discussion of some of the limitations of your study in more detail. Some things to discuss would be limitations of how the second stage of labor was evaluated, lack of information on important confounders, etc.

**Answer:** Thank you, we have added this to the Discussion.

## STATISTICAL EDITOR COMMENTS:

The Statistical Editor makes the following points that need to be addressed:

Table 1: Should make clear that these characteristics are from the twin cohorts only, not the singletons. There are many entries that should be mean $\pm$ SD that only have SD entries. There are several entries (age, wgt gain) that have expressions to 0.001 precision. The years should be rounded to nearest 0.1 year and wgt gain to the nearest 0.1 kg, not to 0.001 kg

precision. For the last two columns (N = 43 and 16), all %s should be rounded to nearest integer %, not cited to 0.1% precision.

**Answer:** We have now better defined the titles of the tables. We have now rounded the age, weight to the integer. We have corrected the % where cohort is less than 100.

Tables 2, 3 and 6: The medians are consistently different from the means, ie, the data are all skewed. So, it is probably not useful to cite the mean values. Suggest instead simply organizing the data as 5th, 25th, 50th, 75th and 95th %-tiles and omitting the mean (could be cited as online material if thought to be useful).

**Answer:** We have corrected the tables as suggested.

Table 3: The precise estimation of percentiles requires a large sample size. That is met for the nulliparous and parous groups. It is met marginally for the GMP group and not at all for the previous CS and P1CS1 cohorts. (How precise can the 5th or 95th %-tile be estimated when the samples are N = 43 or N = 16)? See Royston P. Constructing Time-specific reference ranges. Stat. Med 1991;10:675-690.

**Answer:** We have changed the definition of the groups as suggested. We have retained the information on the CS and P1CS1 cohorts as supplemental information only (presenting median and IQR only without other percentiles for these groups).

Table 4: This Table could be put into on-line material. Need to include the variables retained in the final model as a footnote to table. Also need to include the SE for the estimates.

**Answer:** We have moved the table to supplemental material as suggested. We have added the SE and clarified in the footnote the included variables.

Table 5: Need to clarify the format. It appears that Apgar scores at 1 and 5 min are formatted as mean(SD) and then as median[IQR], but that needs clarification as a footnote to Table. The first column (N = 96), should round the %s to nearest integer %.

**Answer:** We have now better defined the variables of Apgar and changed the % where cohort is less than 100.

#### EDITOR COMMENTS:

1. Thank you for submitting your work to Obstetrics & Gynecology. We are interested in a revision but only one that is significantly re-organized and streamlined.

As is, the five different categories of twin gestations, combined with the numerous variables assessed, coupled with the singleton comparisons make the manuscript overwhelming.

As indicated by the statistical reviewer, no need to present means, medians fine. Also, as another reviewer suggested, graphical data would be illuminating.

In short, should you choose to revise I am asking for more than a typical revision and instead a serious overhaul of your manuscript so that readers can derive maximal benefit from your important data.

**Answer:** Thank you again for the opportunity revise and resubmit our manuscript. We have endeavored to re-organize and streamline the manuscript making it more clinically useful and easier to understand.

2. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its

peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will also be including your point-by-point response to the revision letter. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses:

- A. OPT-IN: Yes, please publish my point-by-point response letter.
- B. OPT-OUT: No, please do not publish my point-by-point response letter.

**Answer:** OPT-IN

3. Obstetrics & Gynecology uses an "electronic Copyright Transfer Agreement" (eCTA). When you are ready to revise your manuscript, you will be prompted in Editorial Manager (EM) to click on "Revise Submission." Doing so will launch the resubmission process, and you will be walked through the various questions that comprise the eCTA. Each of your coauthors will receive an email from the system requesting that they review and electronically sign the eCTA.

Please check with your coauthors to confirm that the disclosures listed in their eCTA forms are correctly disclosed on the manuscript's title page.

4. All submissions that are considered for potential publication are run through CrossCheck for originality. The following lines of text match too closely to previously published works.

<https://doi.org/10.1016/j.ejogrb.2020.08.029> - Cite and variance to Lines 76-77 and Lines 79-83.

**Answer:** We have changed the current manuscript to less closely resemble our previous publication.

5. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric data definitions at <https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-obstetrics-data-definitions> and the gynecology data definitions at <https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-gynecology-data-definitions>. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

6. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Original Research reports should not exceed 22 typed, double-spaced pages (5,500 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and print appendixes) but exclude references.

7. The most common deficiency in revised manuscripts involves the abstract. Be sure there are no inconsistencies between the Abstract and the manuscript, and that the Abstract has a clear conclusion statement based on the results found in the paper. Make sure that the abstract does not contain information that does not appear in the body text. If you submit a revision, please check the abstract carefully.

In addition, the abstract length should follow journal guidelines. The word limit for Original Research articles is 300 words. Please provide a word count.

8. Only standard abbreviations and acronyms are allowed. A selected list is available online

at <http://edmgr.ovid.com/ong/accounts/abbreviations.pdf>. Abbreviations and acronyms cannot be used in the title or précis. Abbreviations and acronyms must be spelled out the first time they are used in the abstract and again in the body of the manuscript.

9. The journal does not use the virgule symbol (/) in sentences with words. Please rephrase your text to avoid using "and/or," or similar constructions throughout the text. You may retain this symbol if you are using it to express data or a measurement.

10. In your Abstract, manuscript Results sections, and tables, the preferred citation should be in terms of an effect size, such as odds ratio or relative risk or the mean difference of a variable between two groups, expressed with appropriate confidence intervals. When such syntax is used, the P value has only secondary importance and often can be omitted or noted as footnotes in a Table format. Putting the results in the form of an effect size makes the result of the statistical test more clinically relevant and gives better context than citing P values alone.

If appropriate, please include number needed to treat for benefits (NNTb) or harm (NNTh). When comparing two procedures, please express the outcome of the comparison in U.S. dollar amounts.

Please standardize the presentation of your data throughout the manuscript submission. For P values, do not exceed three decimal places (for example, "P = .001"). For percentages, do not exceed one decimal place (for example, 11.1%).

11. Please review the journal's Table Checklist to make sure that your tables conform to journal style. The Table Checklist is available online here: [http://edmgr.ovid.com/ong/accounts/table\\_checklist.pdf](http://edmgr.ovid.com/ong/accounts/table_checklist.pdf).

12. Please review examples of our current reference style at <http://ong.editorialmanager.com> (click on the Home button in the Menu bar and then "Reference Formatting Instructions" document under "Files and Resources"). Include the digital object identifier (DOI) with any journal article references and an accessed date with website references. Unpublished data, in-press items, personal communications, letters to the editor, theses, package inserts, submissions, meeting presentations, and abstracts may be included in the text but not in the reference list.

In addition, the American College of Obstetricians and Gynecologists' (ACOG) documents are frequently updated. These documents may be withdrawn and replaced with newer, revised versions. If you cite ACOG documents in your manuscript, be sure the reference you are citing is still current and available. If the reference you are citing has been updated (ie, replaced by a newer version), please ensure that the new version supports whatever statement you are making in your manuscript and then update your reference list accordingly (exceptions could include manuscripts that address items of historical interest). If the reference you are citing has been withdrawn with no clear replacement, please contact the editorial office for assistance ([obgyn@greenjournal.org](mailto:obgyn@greenjournal.org)). In most cases, if an ACOG document has been withdrawn, it should not be referenced in your manuscript (exceptions could include manuscripts that address items of historical interest). All ACOG documents (eg, Committee Opinions and Practice Bulletins) may be found at the Clinical Guidance page at <https://www.acog.org/clinical> (click on "Clinical Guidance" at the top).

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