

ICMJE Form for Disclosure of Potential Conflicts of Interest

Instructions

The purpose of this form is to provide readers of your manuscript with information about your other interests that could influence how they receive and understand your work. The form is designed to be completed electronically and stored electronically. It contains programming that allows appropriate data display. Each author should submit a separate form and is responsible for the accuracy and completeness of the submitted information. The form is in six parts.

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This section asks for information about the work that you have submitted for publication. The time frame for this reporting is that of the work itself, from the initial conception and planning to the present. The requested information is about resources that you received, either directly or indirectly (via your institution), to enable you to complete the work. Checking "No" means that you did the work without receiving any financial support from any third party -- that is, the work was supported by funds from the same institution that pays your salary and that institution did not receive third-party funds with which to pay you. If you or your institution received funds from a third party to support the work, such as a government granting agency, charitable foundation or commercial sponsor, check "Yes".

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4. Intellectual Property.

This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

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Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name) Chris	2. Surname (Last Name) Brown	3. Date 24-December-2020
4. Are you the corresponding author? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Corresponding Author's Name Howard J Seeherman
5. Manuscript Title A BMP/Activin A Chimera Induces Posterolateral Spine Fusion in Nonhuman Primates at Lower Concentrations Than BMP-2		
6. Manuscript Identifying Number (if you know it) JBJS-D-20-02036		

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Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest? ☒ Yes ☐ No

If yes, please fill out the appropriate information below. If you have more than one entity press the "ADD" button to add a row. Excess rows can be removed by pressing the "X" button.

Name of Institution/Company	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Genetics Institute, Wyeth LLC, Pfizer INC,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	former employee of all four, GI acquired by Wyeth, acquired by Pfizer
Bioventus LLC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	former employee of Bioventus

Section 3. Relevant financial activities outside the submitted work.

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Do you have any patents, whether planned, pending or issued, broadly relevant to the work? ☒ Yes ☐ No

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Patent?	Pending?	Issued?	Licensed?	Royalties?	Licensee?	Comments
10,130,678 Systems and methods for improved delivery of osteoinductive molecules in bone repair	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Assignee is Bioventus LLC
10,131,543 Method for producing porous calcium deficient hydroxyapatite granules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Assignees are Bioventus LLC and Mathys AG
10,150,672 Porous calcium deficient hydroxyapatite granules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Assignee is Bioventus LLC
10,300,172 Matrix for enhanced delivery of osteoinductive molecules in bone repair	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Assignee is Bioventus LLC
10,807,869 Method for producing porous calcium deficient hydroxyapatite granules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Assignees are Bioventus LLC and Mathys AG
20190388585 Porous Carrier Matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Assignee is Bioventus LLC

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Mr. Brown reports other from Genetics Institute, Wyeth LLC, Pfizer INC,, other from Bioventus LLC, during the conduct of the study; other from Bioventus LLC, outside the submitted work; In addition, Dr. Brown has a patent 10,130,678 Systems and methods for improved delivery of osteoinductive molecules in bone repair issued, a patent 10,131,543 Method for producing porous calcium deficient hydroxyapatite granules issued, a patent 10,150,672 Porous calcium deficient hydroxyapatite granules issued, a patent 10,300,172 Matrix for enhanced delivery of osteoinductive molecules in bone repair issued, a patent 10,807,869 Method for producing porous calcium deficient hydroxyapatite granules issued, and a patent 20190388585 Porous Carrier Matrix pending.

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Dr. Fredericks reports personal fees from Bioventus LLC, during the conduct of the study; .

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Pfizer, Inc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	former employee of Pfizer
Bioventus LLC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	former employee of Bioventus

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20190388585 Porous Carrier Matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Assignee is Bioventus LLC

Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

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ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 6.

Disclosure Statement

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Dr. Vanderploeg reports other from Pfizer, Inc, other from Bioventus LLC, during the conduct of the study; personal fees and other from Bioventus LLC, outside the submitted work; In addition, Dr. Vanderploeg has a patent 10,130,678 Systems and methods for improved delivery of osteoinductive molecules in bone repair issued, a patent 10,131,543 Method for producing porous calcium deficient hydroxyapatite granules issued, a patent 10,150,672 Porous calcium deficient hydroxyapatite granules issued, a patent 10,300,172 Matrix for enhanced delivery of osteoinductive molecules in bone repair issued, a patent 10,807,869 Method for producing porous calcium deficient hydroxyapatite granules issued, and a patent 20190388585 Porous Carrier Matrix pending.

Evaluation and Feedback

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3. Relevant financial activities outside the submitted work.

This section asks about your financial relationships with entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work. You should disclose interactions with ANY entity that could be considered broadly relevant to the work. For example, if your article is about testing an epidermal growth factor receptor (EGFR) antagonist in lung cancer, you should report all associations with entities pursuing diagnostic or therapeutic strategies in cancer in general, not just in the area of EGFR or lung cancer.

Report all sources of revenue paid (or promised to be paid) directly to you or your institution on your behalf over the 36 months prior to submission of the work. This should include all monies from sources with relevance to the submitted work, not just monies from the entity that sponsored the research. Please note that your interactions with the work's sponsor that are outside the submitted work should also be listed here. If there is any question, it is usually better to disclose a relationship than not to do so.

For grants you have received for work outside the submitted work, you should disclose support ONLY from entities that could be perceived to be affected financially by the published work, such as drug companies, or foundations supported by entities that could be perceived to have a financial stake in the outcome. Public funding sources, such as government agencies, charitable foundations or academic institutions, need not be disclosed. For example, if a government agency sponsored a study in which you have been involved and drugs were provided by a pharmaceutical company, you need only list the pharmaceutical company.

4. Intellectual Property.

This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

5. Relationships not covered above.

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Other: Anything not covered under the previous three boxes

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Licensed: The patent has been licensed to an entity, whether earning royalties or not

Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name)
Howard

2. Surname (Last Name)
Seeherman

3. Date
27-December-2020

4. Are you the corresponding author? ☒ Yes ☐ No

5. Manuscript Title
A BMP/Activin A Chimera Induces Posterolateral Spine Fusion in Nonhuman Primates at Lower Concentrations Than BMP-2

6. Manuscript Identifying Number (if you know it)
JBJS-D-20-02036

Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest? ☒ Yes ☐ No

If yes, please fill out the appropriate information below. If you have more than one entity press the "ADD" button to add a row. Excess rows can be removed by pressing the "X" button.

Name of Institution/Company	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Pfizer, Inc	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	former employee of Pfizer
Bioventus LLC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	former employee of Bioventus

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest? ☒ Yes ☐ No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Bioventus LLC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	former employee of Bioventus and equity holder of Bioventus

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? ☒ Yes ☐ No

If yes, please fill out the appropriate information below. If you have more than one entity press the "ADD" button to add a row. Excess rows can be removed by pressing the "X" button.

Patent?	Pending?	Issued?	Licensed?	Royalties?	Licensee?	Comments
10,130,678 Systems and methods for improved delivery of osteoinductive molecules in bone repair	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Assignee is Bioventus LLC	Directly relevant
10,131,543 Method for producing porous calcium deficient hydroxyapatite granules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Assignees are Bioventus LLC and Mathys AG	Directly relevant
10,150,672 Porous calcium deficient hydroxyapatite granules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Assignee is Bioventus LLC	Directly relevant
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20190388585 Porous Carrier Matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Assignee is Bioventus LLC	Directly relevant

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Dr. Seeherman reports personal fees from Pfizer, Inc, personal fees from Bioventus LLC, during the conduct of the study; personal fees and other from Bioventus LLC, outside the submitted work; In addition, Dr. Seeherman has a patent 10,130,678 Systems and methods for improved delivery of osteoinductive molecules in bone repair issued to Assignee is Bioventus LLC, a patent 10,131,543 Method for producing porous calcium deficient hydroxyapatite granules issued to Assignees are Bioventus LLC and Mathys AG, a patent 10,150,672 Porous calcium deficient hydroxyapatite granules issued to Assignee is Bioventus LLC, a patent 10,300,172 Matrix for enhanced delivery of osteoinductive molecules in bone repair issued to Assignee is Bioventus LLC, a patent 10,807,869 Method for producing porous calcium deficient hydroxyapatite granules issued to Assignees are Bioventus LLC and Mathys AG, and a patent 20190388585 Porous Carrier Matrix pending to Assignee is Bioventus LLC.

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Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name) John	2. Surname (Last Name) Wozney	3. Date 24-December-2020
4. Are you the corresponding author? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Corresponding Author's Name Howard J Seeherman
5. Manuscript Title A BMP/Activin A Chimera Induces Posterolateral Spine Fusion in Nonhuman Primates at Lower Concentrations Than BMP-2		
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Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest? ☒ Yes ☐ No

If yes, please fill out the appropriate information below. If you have more than one entity press the "ADD" button to add a row. Excess rows can be removed by pressing the "X" button.

Name of Institution/Company	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Bioventus LLC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consulting fees.
Genetics Institute, Wyeth, Pfizer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Former employee. Genetics Institute was acquired by Wyeth which was acquired by Pfizer.

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest? ☒ Yes ☐ No

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ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? ☒ Yes ☐ No

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ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name) Pablo	2. Surname (Last Name) Morales	3. Date 24-December-2020
4. Are you the corresponding author? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Corresponding Author's Name Howard J Seeherman
5. Manuscript Title A BMP/Activin A Chimera Induces Posterolateral Spine Fusion in Nonhuman Primates at Lower Concentrations Than BMP-2		
6. Manuscript Identifying Number (if you know it) JBJS-D-20-02036		

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Are there any relevant conflicts of interest? ☒ Yes ☐ No

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Name of Institution/Company	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Bioventus LLC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Employee of the Mannheim Foundation. Bioventus paid the Mannheim Foundation for the purchase of animals and support of the on-site animal studies.

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest? ☐ Yes ☒ No

Section 4. Intellectual Property -- Patents & Copyrights

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Dr. Morales reports other from Bioventus LLC, during the conduct of the study; .

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